

PRACTICAL CLINICAL PSYCHIATRY

BY

EDWARD A. STRECKER, A M., Sc.D., M.D.

PROFESSOR OF PSYCHIATRY AND CHAIRMAN OF THE DEPARTMENT OF PSYCHIATRY, SCHOOL OF MEDICINE, UNIVERSITY OF PENNSYLVANIA, CHIEF OF SERVICE AND CONSULTANT TO THE INSTITUTE OF THE PENNSYLVANIA HOSPITAL, PSYCHIATRIST TO THE PENNSYLVANIA AND PHILADELPHIA HOSPITALS, NEUROLOGIST TO THE GERMAN TOWN HOSPITAL, PHILADELPHIA, CONSULTING PSYCHIATRIST TO BRYN MAWR COLLEGE, AND TO THE U. S. VETERAN'S BUREAU

AND

FRANKLIN G. EBAUGH, A.B., M.D.

PROFESSOR OF PSYCHIATRY, UNIVERSITY OF COLORADO MEDICAL SCHOOL, DIRECTOR, COLORADO PSYCHOPATHIC HOSPITAL, CONSULTING PHYSICIAN CHILDREN'S HOSPITAL, NATIONAL JEWISH HOSPITAL AND DENVER GENERAL HOSPITAL, DENVER, COLORADO, DIRECTOR OF DIVISION OF PSYCHIATRIC EDUCATION, NATIONAL COMMITTEE FOR MENTAL HYGIENE, NEW YORK CITY, N. Y.

Section on
Psychopathological Problems of Childhood

BY

LEO KANNER, M.D.

ASSOCIATE PROFESSOR OF PSYCHIATRY, JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE

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To

ADOLF MEYER, M.D., LL D., Sc D

Revered Dean of Psychiatry, Beloved Teacher
and Friend

PREFACE TO THE FIFTH EDITION

A decade and a half has elapsed since the first edition of this book was offered to practitioners and students of medicine.

Retrospectively viewed, the most important and significant psychiatric perspective that emerges from that period of time is the perspective of the demonstration, acceptance and application of the fundamental unity of the human organism. At that time it was customary to look at only half of a man. Psychiatric viewpoints revealing rigidly limited organic or psychological hemianopias were exceedingly common. Numerous attempts, some of them brilliant, have been made to study and treat mentally sick patients exclusively at somatic or psychic levels. Such attempts cannot survive without modification, since however brilliant they may be, nevertheless they embody the fallacy of disregarding the close entwining, constant interplay and reversibility of somatic and psychic.

Gradually psychiatric insistence upon somatic-psychic unity has permeated internal medicine and all its specialties. Its validity has been recognized and its etiological, diagnostic and therapeutic considerations have been very fruitful. The term "functional" is now understood in its real and complete aspects and signifies a concept, considered about as frequently in internal medicine and in its special fields like gastroenterology, dermatology and others, as it is in psychiatry.

With the passing of each year since the first publication of this book, there has come a stronger vindication and a wider application of the sound and fruitful psychobiological

doctrine of our teacher and our friend—Adolf Meyer. It is more workable than any other hypothesis, since much more than any other formulation, it carefully gathers every fact in the long life section of human experiences, disregarding none. It evaluates them thoughtfully and focuses the knowledge gained upon the patient and the maladaptation which is under psychiatric scrutiny. It yields more than any other method, accurate and inclusive etiologic and diagnostic considerations and dynamic therapy.

As the number of editions of this book increases, so are we the more conscious and the more appreciative of the valuable help and wise counsel which has been so generously given to us from many sources. We wish we could acknowledge all these favors, but, we should like to record gratefully, at least, two outstanding contributions. One is the complete, significant and practical contribution of Leo Kanner, M.D., Professor of Psychiatry, Johns Hopkins Medical School. It has successfully passed the test of critical judgment and the criterion of clinical applicability. The other is the considerable aid involved in revision and proof reading conscientiously and skillfully given by Jack R. Ewalt, M.D., Resident Psychiatrist, Colorado Psychopathic Hospital.

We present this Fifth Edition to physicians and students of medicine with a deep sense of obligation and appreciation for their generous reception of the previous editions.

THE AUTHORS.

PREFACE TO THE FIRST EDITION

Psychiatry is usually regarded as a specialty of medicine. A little reflection should make it clear that a subject of such far reaching importance cannot be confined within any hard and fast or narrow limitations. A great number of diseases which begin as strictly problems of internal medicine soon overflow into the channels of psychiatry and vice-versa. One need but mention the deliria of typhoid, pneumonia and other infectious diseases, the mental states associated with lead and the metallic poisons, the various mental accompaniments of syphilis and alcoholism, of arteriosclerosis and old age, and the effects of well known endocrine diseases on the functions of the mind. But all this is only a very small portion of the whole reason why *every physician should cultivate that attitude which comes from some knowledge of mental diseases and which might be termed the psychiatric point of view*. It is obvious that the mind is not a disembodied spirit, floating about in space independent of the physical organism. Therefore, there must be, and is in every person who is sick, an "X" quantity, an unknown factor which represents his peculiar reaction as an individual. Psychiatric methods make it possible to recognize and handle this factor. There are even in the most readily recognized disease, such as a classical example of typhoid fever, certain symptoms which cannot be measured by observation, palpation, percussion or auscultation, nor by the test tube or microscope, and these symptoms represent not the reaction of separate organs, but the reaction of the whole organism, or, in other words, the reaction of the individual to the infecting bacillus. This, in its broadest sense, is psychiatry,

and it needs to be studied with the fever and pulse rate. With the psychiatric viewpoint comes the ability to deal efficiently and successfully with the hundred and one difficulties and obstacles, which every doctor encounters in the daily round of his professional duties, the *ability to treat not only the physical symptoms of the patient, but also his whims and peculiarities, his personality, his mind and in fact the entire patient*. It is highly desirable that the medical student, who in a few years will be the practicing physician, and the hospital resident, who is serving his apprenticeship, take the necessary steps to acquire this ability. For the family doctor; for the internist, the surgeon; and, in fact, for the specialist in every field of medicine, the psychiatric point of view will be an asset which will pay continuous dividends in the shape of greater efficiency, greater success and greater service to mankind.

For the nurse some knowledge of the mental processes and the results which occur when they are abnormal is imperative. She spends many more hours with the patient, who is either physically or mentally ill, than does the physician. She must know how to meet and combat the inconsistencies, the vagaries, the moodiness, the unreasonableness, etc., which go with any sickness and are part and parcel of it. She too, will lose much that is worth while unless she has acquired the psychiatric point of view. No matter how deft and careful she may be, how skillful in taking the temperature, counting the pulse rate or smoothing the bed sheets, unless she realizes that the patient has a mind as well as a body, and has at least an elementary conception of how the mind works in disease, then she will never reach the higher ranges of success in her profession. From the angle of the nurse, it should be emphasized that the problem of convalescence is almost entirely a question of psychiatry. Furthermore, the nurse who is engaged in public nursing as a district nurse, school nurse and the like cannot meet the

needs of those who look to her for help unless she has some knowledge of psychiatry

In the field of social service, it is impossible for the worker to give real social service to the community unless she has some insight into the lessons which psychiatry teaches. The evils which spring from ignorance, poverty, crime and disease are largely evils which lay their blight on the mind in a greater degree than they do on the body. Mental disease is much more apt to disorganize and disrupt the home, and reduce the efficiency of all the members of the family, than is physical disease. The social worker will fail miserably unless she, at least, is conversant with the basic principles of psychiatry and mental hygiene.

The question of mental disease and defect deserves consideration by the intelligent public. Even from the standpoint of economics, the citizen and tax-payer will find much to interest him. Few people realize that in this country *there are more beds in public hospitals devoted to those who are mentally sick than to all classes of the physically sick combined.* Finally, psychiatry has a contribution to make which may help to solve many of the problems of living which were never more acute than they are today. The complexities of modern life are bringing up puzzles which affect everyone. They are perhaps more mental than physical and psychiatry can assist in their solution as it can, perhaps, in the understanding of some of the upheavals from which the world is suffering. They seem to be the product of an abnormal psychology of the masses instead of the individual. For always, as in the study of disease, psychiatry is interested in the last analysis—not so much in the pathology of this unit or organ, but in the whole effect which has been produced.

With some of these considerations in mind, we have emphasized the *case method* of presentation. In order to appreciate and understand the phenomena of the psychoses, we believe that nothing can compare to the direct observa-

tion, examination and study of individuals who are actually mentally sick. No amount of textbook definition, recounting of symptoms or explanatory detail seems to be able to take the place of personal familiarity with the patient who is really suffering with the illness which is being described. Since, usually, it is neither practical nor feasible for the student to give the considerable amount of time which is necessary for this purpose, we feel that the next best thing is to bring the story of the patient and his psychosis to the student through the medium of the printed page. This method of clinical instruction is being utilized with increasing frequency in other fields of medicine. We have tried to include a sufficient number of examples of the various psychoses, so that when the physician or student is confronted by a psychiatric situation in practice, he should be able to find a case reference which should give him at least some inkling of the particular psychosis which he has encountered. He may then compare the two cases and note symptomatic similarities or differences. With this basis to work on, he may refer to other cases for more careful comparison. Finally, he will want to study the explanatory text for discussion, elaboration and explanation of the particular form of mental disease.

Perhaps, the chief asset of the case method of presentation is that it gives a true and real account. In bed-side teaching, one not infrequently hears the complaint from the student that the patient is not like the general descriptive picture in the textbook. This symptom or that sign is lacking, or this or that phenomenon which is present in the patient was not mentioned in this connection in the book. Naturally, in textbooks, the general symptomatic description must strive for accuracy in covering the average findings and not too much account can be made of minor variations from the rule. It is unfortunate for the student that the complete classical case is so rare in reality. Some of these

difficulties are obviated by the case method. The picture is given about as it occurred in actual life; therefore, it should represent more or less accurately large groups of psychoses as they appear in the hospital, clinic and consulting room. Further, the student is made aware by example of the notable variations of even the same psychosis in different individuals. In other words, wherever it is possible the personal equation is stressed. Thus, the student is taught to anticipate the departures from the usual descriptive syndrome, which are so common and yet so puzzling in practice. For these and other reasons, we believe that teaching by case presentation is desirable, particularly for the novice in psychiatry.

THE AUTHORS

PHILADELPHIA, PENNA.,
April, 1925

FOREWORD

By

DR. ADOLF MEYER

Professor of Psychiatry Johns Hopkins Medical School

The position of psychiatry in medical work and medical thought and in the progress of science has undergone a remarkable change in our generation

There is a frank need of service to the patient and to the families and communities that have to pay for the services and expect help commensurate with what is promised and can actually be attained. There is, further, a real need on the part of student and physician to get help from accumulated experience in dealing with human nature and resources and handicaps. This is needed not only in the cases which are obviously and essentially "mental" and "nervous," but also in the assimilation and general naturalization of what we have to apply in all dealings with patients as persons.

The third consideration is that of science and that painstaking accumulation of experience concerning the experiments of nature and man with our specifically human nature, that of the "speaking, thinking and feeling being," so different from the frog, the cat, and even the dog, so long the chief supplement to the dissection room in the training in pathology and therapy.

The authors of the present book are among those who are doing their utmost to do justice to needs and opportunities in a field that is justly emerging from the status of a mere specialty to that of general training and perspective. It holds to the middle road between what is essential and

helpful to the student and practitioner and what is of value for those accumulating material for progress. From edition to edition this text makes strides that are bound to be welcome and appreciated in all the essential directions. As one of the expressions of progressive American work mindful both of the service to patients and of a broadening perspective for student and physician, the collaboration of these two energetic contributors to psychiatry will continue to serve as a help and stimulus not only to the student working in a specialty but to a broadening of general medical foundations.

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CLINICAL PSYCHIATRY

INTRODUCTION

The quickening of general medical and intelligent lay interest in the subject of mental diseases; the desire of the medical student to have at hand a not too lengthy source of information and review, and the increasing inclination on the part of the hospital interne to spend some portion of the preparatory period in mental hospitals and psychiatric clinics have all served to create a need for a short and concise exposition of the outlines of psychiatry. For the trained specialist and for the physician who is planning to devote his professional career to the study and practice of psychiatry, there are available more comprehensive works

It has been reliably estimated that of the 7,000 infants born each day in the United States, about 270 or 1 in 26 eventually become incapacitated by abnormalities of the mind. It is known that 75,000 new patients are admitted annually to the state institutions for the insane. When one takes into consideration the many patients who never reach public hospitals (being cared for privately) and, further, the numerous psychopathological border-line conditions such as the psychoneuroses, which are often just as serious and disabling in their consequences as the psychoses, yet do not require institutional care, it becomes clear that mental disease constitutes a serious and far-reaching economic problem. It is obvious that only a small fraction of this great army of the mentally unfit comes to the attention of the specialist during the stage of incipency, when it is often possible to accomplish something constructively

to avert the calamity of chronicity. Many of the individuals who are threatened with the spectre of insanity, but who are still struggling to live in the world of reality are to be found in the consulting room of the busy general practitioner. Surely it is imperative that he, at least, be sufficiently informed about the bare outlines of psychiatry, so that he may be able to deal helpfully with such situations.

Such were the thoughts which prompted the preparation of this book in which we have tried to furnish a relatively rapid method of grasping essentials of diagnosis and treatment, so that the novice, who has but a limited time to devote to the subject, will not be forced to grope overlong among the mazes of theoretical discussion. Finally, we shall count ourselves fortunate if we succeed in further emphasizing the close relationship which exists between psychiatry, internal medicine and the specialties, and it is one of our aims to stress these important points of contact. We can whole-heartedly subscribe to these words from the pen of a well known American internist.¹ "Psychiatry, like each of the other branches of medicine, has come to be recognized as one of the subdivisions of the great branch of biology. free to make use of the scientific method, in duty bound to diffuse the knowledge that it gains, and privileged to contribute abundantly to the lessening of human sufferings and the enhancement of human joys. General practitioners of medicine and medical specialists, at least the more enlightened of them, welcome the developing science of psychiatry, are eager to hasten its progress, and will gladly share in applying its discoveries to the early diagnosis, the cure, and the prevention of disease."

Method of Presentation. We have selected the method of actual case presentation as the most practical one for the

¹ Parker, Lewellys F. "The Importance of Psychiatry in General Medicine." "A Psychiatric Milestone." Privately printed by the Society of the Park Hospital (pp 61-62).

INTRODUCTION

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beginner Facts relating to etiology, diagnosis, prognosis, and treatment are more deeply impressed when they are viewed as concrete happenings and phenomena in the life history of an individual who has actually developed a psychosis. We have attempted to include only classical examples of the various psychoses, but in the discussion following each case, the salient features of causation, symptomatology, modifiability and management of the diseases under consideration are reviewed and the *usual* symptom-complex is stressed

CHAPTER I

PSYCHOBIOLOGICAL CONCEPTIONS OF MENTAL DISORDERS

Historical. The history of Psychiatry is an epitome of the history of the development of human thought. Apparently the mind of man is impelled to seek some explanation for all objective phenomena. In the ages before the dawn of history, the signs of madness must have been noted with wonder and awe and, doubtless, they were ascribed to weird and mysterious agencies—the gods and devils of those superstitious days. In the earliest historical records, we find that insanity was first referred to as possession of the body by demons and evil spirits and, but more rarely, to the favor of the gods. Until comparatively recent times, the only interruption of this primitive point of view was the rational belief of the great Hippocrates (460–357 B.C.) and other Greeks of that period, who taught that “the brain is the organ of the mind”—a terse statement which summarizes the conception upon which the physiological viewpoint is grounded today. Naturally, the idea of demonological possession easily opened the way for flagrant abuses in the treatment of the insane. They were chained, tortured, burned and beaten, all in an effort to drive out the demons. This state of affairs existed even during the 19th century even though they received better treatment in less cruel communities. In this connection, it must be noted that it is only within the past few decades, that the grossest aspects of man’s inhumanity to man have been corrected. For instance, according to the law of England of that time, on February 2, 1785 at Tyburn, five men were hanged—

one for assaulting a man and robbing him of two glass drops, set in metal, value 3d. (6 cents), and four for the following thefts: a one-inch rule, value 2d, two papers of nails, value 1d, a knife, value 1d, two shillings (48 cents), and a counterfeit half-penny, (1 cent)

Psychiatry began its beneficent ministrations, largely through the humanitarian efforts of Pinel in France (1792), Tuke, in York (1792) and later on in America by Dorothea Dix. These great humanitarians established or at least gave currency to the belief that those who were insane were sick, that any other conception was indefensible and thus the path was cleared for intensive inquiry into the real nature and causation of mental disease. Naturally, there continued to flourish, and there still exist, those, who either because they are ignorant, misguided or fanatical, or because they are charlatans, ascribe mental disease to mystic or supernatural agencies or influences and in the attempt to substantiate their claims, utilize various devices which deceive the credulous ("magnetism," etc). In the main, however, the investigations of insanity have been scientific and have proceeded along more or less logical physiological and psychological lines

The physiological school was and is represented by a distinguished array of scientists through whom the science of psychiatry has been enriched. They use the methods of anatomy, neuropathology, chemistry, etc in the hope that eventually constant organic factors will be uncovered which will prove that the brain is the organ of the mind by giving final explanations of mental symptoms in terms of brain pathology

The psychological school has had (and still has) many eminent adherents (Charcot, Babinski, Janet, Beinheim, Dubois, Dejerne, Freud, Bleuler, Jung, Adler, etc) who have made noteworthy and sometimes epochal contributions. It takes little or no account of any possible relationship

between mental processes or symptoms and changes in the brain. It admits at once that there are such relationships in the so-called organic psychoses; as for instance, in paresis, in arteriosclerotic dementia, or in idiocy, but it scouts the idea of the existence of similar, or, indeed, of any brain or structural alterations in such psychoses as manic-depressive, dementia precox, and particularly in the neuroses. In effect, the psychological conception denies that the brain is the sole organ of the mind. Therefore, the psychological approach to the problem of insanity is radically different from the approach which is the logical outgrowth of the physiological conception. The psychological school insists that it is necessary to study abnormal mental phenomena without reference to the brain, but simply as observable phenomena of consciousness which may not only be identified but also classified and eventually understood as mental operations which follow a fixed law. In a few words, this is the basic difference between the physiological and psychological hypotheses.

Adolf Meyer urges an empiric (common sense) view that the individual is to be studied as an "experiment in nature," an integrated whole of many activities (visceral, endocrine, sensory-motor, reflex, instinctive, psychological and social) each of which should be considered *in relation* to the living individual and not as a foreign, detached subject. This is done by utilizing the regular scientific method of observation of all objective behavior on all levels including the subjective account of the individual, collection of these facts in an orderly fashion, followed by classification and generalization where this is possible. There is no necessity for limiting ourselves to one method of approach since each school or doctrine contributes something which may be valuable in considering the total function of the individual. This attitude, called psychobiology, encourages a genetic-dynamic study, on all levels of integration, of man functioning in his

environment, and utilizes treatment centered about the patient. More briefly, we study the growth and development of the individual as an integrated whole. We study man in science as we see man in actual life, as a physical person, infant, child, adolescent, adult, and aged, as the he or she in a group, as part of nature and for everything that makes a difference in growth, development and function.

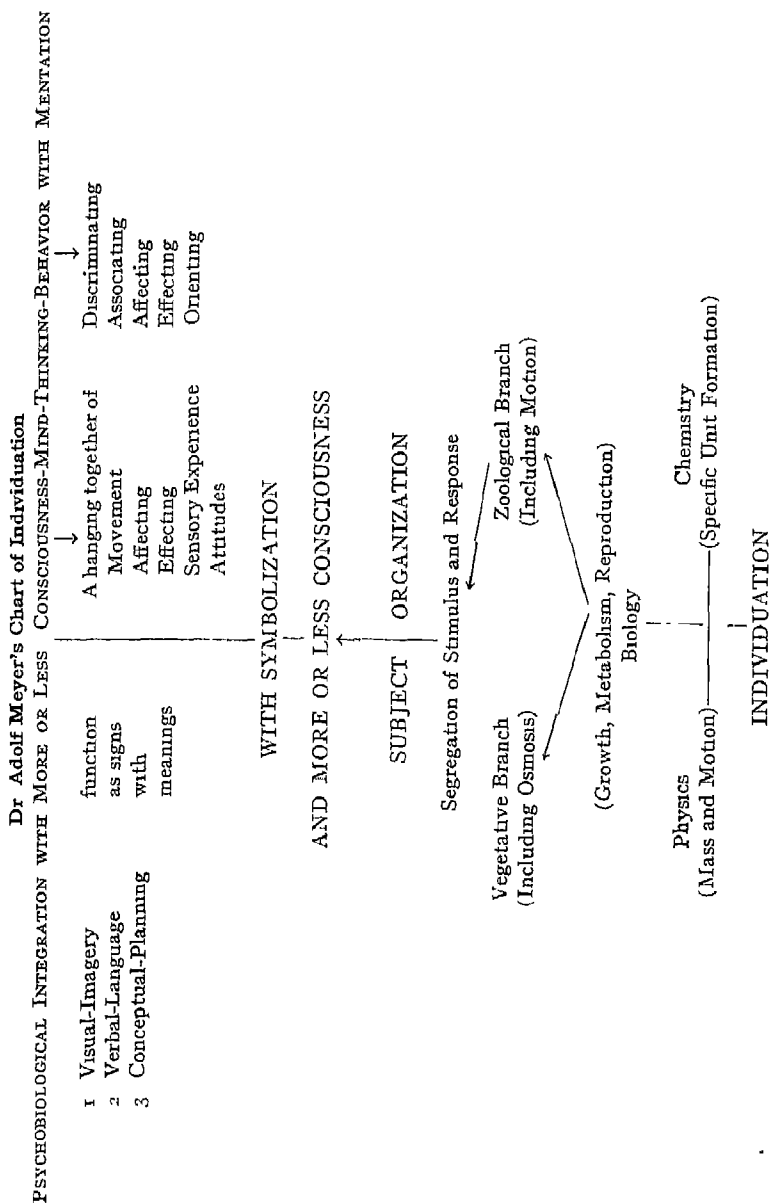
THE PSYCHOBIOLOGICAL CONCEPTION AND ITS PREMISES

Man in his course of evolution has developed many abilities and functions which help to distinguish him from the lower animals without therefore detaching him from his biological background. The most remarkable of these is the subjective economizing function, or sign function or meaning function, which tradition describes apart, as mind and its functions, which, serving as symbols, enables him to remember, recall, associate, discriminate, imagine, reason and make references. That this function, mentation, differs from other body activity is no reason why we should make a mystery of it. We need not indulge in the naive alibi that mind cannot arise out of matter. "Wholes have important properties not necessarily deducible from their constituents and the relation among these." A commonplace example is the union of oxygen and hydrogen forming water which differs from either constituent. The emergence of mentation ("the minding function") from a physical substrate need not be mystical or "beyond man's ken" in view of the many anatomical, embryological, hormonal and anthropological considerations and facts to be heeded which give numerous examples of the appearance of totally new qualities in the animal scale. We do not divide nature into the inanimate, animate and mental realms any longer or into physical and mental, but rather into sets of integration, each behaving according to specific laws, each higher integrate including the material of the simpler type and constituting a product of differentia-

tion and integration, rather than an addition or superimposing of extraneous material. It is only in the biological integrations that we also find what we attribute to mind. Yet there is no need for the concept of mind and body psychophysical parallelism, and similar emphases which have been and still are the disturbing mystery in much psychological and philosophical writing. Biological, psychological and social developments are inseparably related, a system of interrelations and interpretations, each part and function acting on the other, and influencing behavior, the function of the he or she.

"We find as the decisive principle of the specifically psychobiological fact of personality—function in the emergence of a system of symbolization and interrelations as meanings. All that which we know as thus integrated is to be studied for what it does and is. Taking this view, we are prepared to study the facts found in actual operation, the conditions under which they do or do not occur, the factors entering into the patterns, their working and the results and their modifiability, their formulation and their reconstitution as 'experiment of nature.'"

Meyer's Chart (p. 9) describes the psychobiological functioning as function of the person as a unit as opposed to the function of parts. This functioning is the result of organization, growth, metabolism and specialization of the personality. It is the emergence from lower integrative levels to the highest. It is more than a summation of these lower levels; it possesses all of their characteristics but is ultimately governed by laws of functioning applying explicitly to the resulting total functions of the he or she. In non-living material we are concerned merely with chemistry and physics, inanimate to be sure, but possessing beginnings of unit formation as manifest by specific form (crystals) and masses and action. However, in the world of living things the units have the feature of individuation in individual



organism and specific characteristics of function. In attainment of biological integration the physico-chemical material shows organization with the laws of growth, metabolism and reproduction. The biological world presents itself in the realm of plants, largely vegetative and dependent upon osmosis, and in the zoological realm, as animals, presenting specific motility. From a certain point, organization in the animal world introduces the segregation of stimulus and response finally furnishing the foundation for delayed reflexes, with the attainment of more or less consciousness through the insertion of sign-function or symbolization or mentation. One sees then, physico-chemical unit formation, biological integration dependent upon growth, metabolism, osmosis, reproduction, motility and consciousness, functioning as a "he" or "she," a single unit called person with its personality. Consciousness, mind, thinking, behavior with mentation are all synonymous terms and are dependent in their functioning upon symbolization, making possible nature's economizing process for the most intricate working of the organism. It is effected by sensing, imagery and behavior of the animal type, adding speech (language) as secondary symbolization as the basis for the forming of ideas and concepts. It allows us short cuts in mental goals; it allows us to grasp or take in a situation within the reach of the senses and reactive mechanisms, and at the same time the symbols of a past experience and to anticipate the situations of the future.

It is this state of "solution" in the flow and process of symbolization that differentiates psychobiological from the merely physiological functioning of detachable organs.

Consciousness is the hanging together or blending of movement, attitude, reaction and action into the flow of personality function. When it is present, the organism embraces the processes of discrimination, orienting, and affective and effective performance.

Consequently, when we say we are interested in the behavior of an individual, we mean not only organs as detachable systems, but the functioning of the organism as a unit or person with his instinctive drives, rhythms, intellectual equipment, his moods, his ambitions and opportunities to fulfil them, his habits, memories, hopes and dreams—that which makes up the biographic life-record. These are mentally integrated functions constituting the personality and upon them and their way and means of working together, will depend the life adjustment of the person.

It is imperative in studying a man and his adjustment to his environment, as one would study any "experiment of nature," that we include everything significant in his natural history which led to the present picture, which is only a cross section of a stream of activity moving relentlessly onward between conception and death. It is implicit in this view that the experiences and traits which make up the personality also constitute the psychosis. (See also Meyer's article in Baldwin's *Dictionary of Philosophy and Psychology*) Personality has been picturesquely described by James: "In its widest possible sense a man's self is the sum total of all that he can call his, not only his body and his psychic powers, but his clothes and his house, his wife and children, his ancestors and friends, his reputation and works, his lands and horses, and yacht and bank account."¹⁶ The view described by Meyer is a genetic-dynamic one, emphasizing mental disease as a growing process, a cumulative result of habit patterns and actions and reactions with which the individual faces his environment. Thus the individual's growth and development is studied through his life facts and life experiences. A fact is defined as "anything which makes a difference," whether this fact be a birth deformity, an anemia, an infection, an ideal, a memory, or a fear.

If we achieve such a progressive picture of the personality in which the origin and component factors in relation to

each other are clearly visualized, it follows that diagnosis and treatment will be individualized as well as generic. The ordinary "diagnosis" is apt to be a term for a static picture, a real or hypothetical lesion, a cross section of the stream of activity. It does not take into account the distinctive events which caused a particular person to become ill in a certain way at a certain time, and totally fails to describe the progress of the illness as an experiment of nature. Reaction types based upon underlying lasting constitutional or temporary reaction tendencies offer a better method of specifying and understanding mental aberrations. Treatment will be directed by dealing with the component disorders individually, and then with a view of altering them in relation to the total picture. There is no danger of one neglecting organic or organismal disorders, as some have claimed, because of the emphasis upon the organismal total picture. The psychiatrist is first of all a physician whose basic training and obligation compel him to respect organic disorders in structural and functional terms; however, the psychiatrist wishes to place the treatment of psychobiological disorders upon the same firm natural history basis, on the lines indicated. Every type of treatment which is effective will be used since psychobiology does not lay claim to any one type as a panacea.

Psychobiology urges a pluralistic view regarding the etiology of mental disease. It refuses to make paresis the prototype of mental disease, since it is really an invasion of the organism by a symbiotic agent, the spirochaete. It deplors extolling any one cause as the most important in so complex an organism as man when the common sense approach is the most adequate. Somatic disease, focal infection, infantile sex trauma, poor conditioning to environment, defective endowment, emotional imbalance, an urge to power, are all undoubted causes in specific cases. The individual case should present its own etiology rather than

the examiner fitting the material into a preconceived theory. It is obvious that no aspect of the physical examination or mental status supplemented by the family history, personal and developmental history, history of school progress, practical knowledge, social reactions, economic efficiency and moral reactions, can be neglected when one accepts the causative factors as they present themselves. Every additional useful technique is employed either for information or treatment, the most common being: the Binet-Simon and Army Alpha and Beta psychometric and performance tests, the Jung association tests, Pressey personality tests, association-motor tests, Rorschach test, hypnosis, narcosis interviews utilizing sodium amytal or alcohol, free association methods or distributive analysis, the psychogalvanic reflex tests, special performance tests.

It is important to note that simple pictures of the disease process are not as profitable in psychiatry as they are in surgery since we must treat a whole individual and not focus on one physiological segment. Much patient and painstaking work is often necessary to recreate the circumstances under which the disease process occurred. We only distort the truth by over simplification if we force the facts into a preconceived scheme of uniform causation of mental disease. The "law of parsimony" must not be invoked until the functioning of the whole personality is better understood.

In discussions of the etiology of mental disease heredity is often mentioned first since it is the most basic consideration. The many modern studies point out the inadequacy of earlier studies in lack of definition, in both diagnosis and the nature of the problem, and poor analysis of the relation between the individual and his environment. The conclusions of modern studies caution against too rigid belief in the inheritability of insanity since the percentage of mental disease in "tainted" families is only slightly higher than that

of the general population. Environmental and psychobiological factors are being recognized as of more importance than mere heredity. If a physician admits a hereditary handicap, it should be an impetus and a challenge for active treatment efforts to help the handicapped individual to adjust to his environment. In this connection we should realize that each individual has a different capacity, and in the study of each patient we should carefully evaluate assets and liabilities of the patient or the actual load he can carry in facing his life problems and situations. In clinical practice where we deal with persons already here we naturally have more interest in the major life situations such as parent-child relation, school and community adjustment, vocational, marital, sex, recreational and religious adjustments, and these are treated as of paramount significance, not to be sacrificed to a fatalistic misconception about heredity.

It is true that constitution, (body type) and temperament (prevailing affective pattern) have been correlated to some degree with some promise of greater connection to be shown in the future. Psychobiology readily accepts this correlation as valuable in so far as it can be shown that physique is purely gene determined and not also influenced by environment, pre- or post-natally. To date one can say that some people with a certain body build may have a certain temperament and that they may be predisposed to a certain type of mental disease if the other psychobiological factors contribute. It is analogous to the well known example of susceptibility to tuberculosis. Children removed from tuberculous parents, which is done routinely in Scandinavian countries, do not develop tuberculosis. Constitution is an important part of any psychobiological picture but it must be evaluated in relation to all the other important factors concerned, before one uses it to delineate modifiable from unmodifiable material.

Viewed psychobiologically every period of life has its own hazards, including those of mentation. Adolescence, still a formative period, with its wide sweeping changes, is a recognized critical period and the conflicts present there should be given as careful attention as those which have their origin in the infantile period.

There is no doubt now that mentation implies body function. Palpitation, tachycardia, protruding eyes, easy excitability and irritability, increased B.M.R., perspiration, feeling of warmth, easy fatigue are signs of an anxiety state as well as of thyroid disease. Constipation, loss of appetite, and great weight loss, disturbed sleep, decreased pulse rate, retardation of thoughts and motor function are found in depression and may lead to stupor states akin symptomatically to those caused by an organic factor. In this connection it may be hoped that further studies, such as Cannon's upon hormonal-autonomic nervous system relations may reveal the integrating action of these systems upon the total personality. But this will not make unnecessary a study of the clashes of personality functions on each other.

In certain conditions such as "active forgetting," dual personality, post-hypnotic suggestion and somnambulism a dynamic "unconscious" is stipulated by certain psychopathologists for which more or less obvious explanations can be found as motivating the behavior of the individual. It is granted that there exists actively in the mental life of every man a large amount of potentiality which is not all or only partly activated, but one must be cautious in postulating a diagrammatic scheme of this activity, as if it were experimentally verifiable. The unconscious is only a concept (like the imponderable ether in physics) invented to explain, if possible, various types of mental behavior. It is a valuable concept when it is based on accurate facts, organizes those facts into an intelligible pattern, and when predictions made upon it are verified by

experience. Such are the requirements of the scientific methods and are the only legitimate criteria by which the concept should be judged.

Sometimes one hears the objection that implicit behavior such as mentation cannot be directly observed and consequently cannot be studied scientifically. Psychobiology uses the methods of trained critical common sense and accepts overt behavior as the fullfledged reality or actuality, refusing to make a real difficulty out of the more economizing part-steps and their symbolization in mentation.

A most important premise which the student of psychiatry must recognize in order to understand the purposive character of psychotic or neurotic behavior states that our mental processes, for example, the content of consciousness at any given instant, is never a matter of chance but is governed by the operation of scientific processes. A thought, even a thought which may be designated as a random thought, is not really random or casual at all, but is the only thought which could have appeared at that particular time. Ask someone to mention off-hand the name of some flower. According to psychological school, the choice of name is not a haphazard one. It is not mere chance that leads one to say "rose" instead of "lily" or "daisy," but the working of a scientific process. The uttering of the word "rose" was predetermined by antecedent psychological events and, therefore, was the effect of a definite cause.

As a necessary corollary to this premise, which has so aptly been designated "psychological determinism," there is the obvious assumption that if so-called normal conscious processes follow antecedent processes, then abnormal mental phenomena, or symptoms are likewise subject to the same processes.

With this introduction, we may proceed to examine the phenomena exhibited by both the normal and the so-called abnormal mind, and to discover if possible whether the

differences which exist are differences *in degree*, or whether they are really actually dissimilar, that is, differ *in kind*. Our examination cannot be exhaustive therefore but a brief consideration is offered.

MENTAL PROCESSES IN HEALTH AND DISEASE

For the average man the distinction between sanity and insanity seems obvious and enormous. This impression is strengthened and confirmed for him, rather than weakened or disproved by a visit to an asylum. Here, he may meet, especially in the chronic wards, a "Christ," or a "Napoleon Bonaparte" or a "Croesus" who may casually present him with a cheque for \$1,000,000, or he may hear the moans of some poor wretch who believes that he is to be cruelly tortured and burned in hell forever, or he may be forced to listen to the complaints of an individual who tells strange tales of the machinations and plots of an imaginary ring of persecutors. All this seems so strange and inexplicable and bizarre, that the visitor will come away with a positive conviction, that the gulf between mental normality and abnormality is very wide and deep and nothing in his own mind bears the slightest resemblance to what he has seen and heard. If he were asked to give an explanation of insanity he would be completely at a loss.

At best he might conclude,

"to define true madness, what is't but to be nothing else but mad "

But is this really all that is to be said on the subject?

The Thinking Process. The average individual would strongly resent the declaration, or even the implication that he is but rarely capable of logical thinking. Logical thinking may be defined as, (1) thinking which is mature and deliberate, (2) about a subject concerning which the person is reasonably well informed, (3) in which the premises are clear and inclusive so that sound deductions can be

derived from them; and, most important of all, (4) thinking which is not tinctured by *emotional bias* or *prejudice*. After all, how much of this kind of thinking is there? How often do we think *emotionally* instead of *intellectually and logically*? How often are our opinions influenced by extraneous emotional factors that are entirely foreign to the subject? Factors such as strong impressions emotionally determined in early childhood; the emotional impress of the personality of a beloved one, or an admired friend, or even the atmosphere of our club or social set; or the opinion of our favorite newspaper or magazine, are all tremendous emotional factors which influence our thinking. Then, too, it must not be forgotten that the less one knows about a subject, the more positive he is apt to be in his opinions, providing the topic is one which arouses some emotional association. But it may be objected, that in normal people these emotional opinions and beliefs are subject to change by logical argument and proof. Are they? How much likelihood is there of changing by argument or scientific proof, the emotional convictions of the amateur politician, the religious fanatic, the antivivisectionist; or of altering by pure logic the countless pet beliefs of the great bulk of mankind, whatever be their social or intellectual status. Are they not almost as impervious to cold logic and intellectual reasoning about these beliefs as is the "Napoleon" of the asylum or the insane victim of a delusion of persecution?

In recent years the disorders in the thinking process have received a great deal of attention from psychiatrists and psychologists. Bleuler has long contended that a disorder in the process of thinking is one of the fundamental or primary symptoms of schizophrenia. Vigotsky, Kasanin, Piaget, Cameron and others have demonstrated definite and characteristic defects in concept formation and in the organization and progression of the stream of thought.

Ingenuous devices for testing these disorders have been developed by these workers. The following material was taken from the authors mentioned above and organized for ease in presentation. The interested student should consult the original works listed in the bibliography because a summary such as this is necessarily incomplete but it is felt that the following introduction to the disorders in thinking will stimulate the student to acquire a better understanding of this important and complex function.

The concept and experience of thinking is more or less familiar to all mankind, yet no one has satisfactorily defined it and a few of us stop to consider the components of this function. The simplest concept is that "Thought is speech minus sound," and the most incoherent is that thought and speech have no fundamental connection but are "externally" and "structurally" brought together by artificial means.

Neither of these concepts offer any aid in understanding thought and speech and their interdependence as seen in the adult. It may be true that the processes are not originally connected but a connection originates and grows in the course of intellectual development.

Every thought is a dynamic function striving to connect something with something else. In studying this phenomenon we are dependent upon words, their meanings, and their expression in verbal or written speech. The meaning of a spoken word may vary with the situation, the affect of the subject, and the constellation of ideas in which the word appears. The majority of verbal productions are incomplete and their meaning is clear only if the entire situation is known and understood by the listener. For example, the phrase "come here" may mean a command—"come here at once or I'll knock your ears off", an amorous invitation—"come close and I'll introduce you to certain exquisite pleasures of the flesh"; fear or a plea for help—"come quickly and help me out of this hole"; etc. The

meaning will be clear to those persons aware of the speaker's immediate environment, the events of the immediate past and in a position to judge his affect by the tone of his voice or his facial expression. The absence of any of these factors may lead to confusion or misinterpretation and for this reason written speech must be much more detailed and exact than verbal productions. Phantasies and "thoughts," may on the other hand be less well organized and complete because one must convey the meaning of the words only to oneself, our most frequent and understanding audience.

The smooth blending of the thought-speech function as seen in the normal adult is best understood if studied genetically.

The child first speaks in one word sentences. The word has a generalized meaning, being associated with a total situation and not a specific object. For example, a certain child has a one word vocabulary. The word is "cracker" and means "I am hungry and should like to eat," or "this is good food," or "I see that you are eating," depending upon the situation, but the word is never used except in association with food or the feeding process and refers to the total function of eating. A series of incoherent chatterings by the same child are not speech because they are not associated with any particular act, object or function. As this child develops, it will no longer use one word sentences, and as she learns such words as food, hunger, milk, etc., words will lose their general meaning and assume a more specific association. Thus "cracker" will no longer apply to all food and the feeding process, but will be associated only with a hard, dry, rather tasteless, edible object. Until the age of 10 or 12 this association will be rather fixed and any other use of the word "cracker" will be confusing to the child who will continue to associate it with the original object. Thus a person referring to a Florida swamp dweller as a "cracker" or referring to an instrument for breaking

nutshells as a "cracker" will, to the child, be talking incoherently. The child gradually learns by experience that the word has other associations and at about age 10-12 we find the child losing the original rigid association with the word and forming broader concepts of its possible meaning and use. This is known as "conceptual thinking" and is the adult manner of interpreting word meanings. In this phase our original word cracker takes on different meanings if used during the soup course at dinner, in a Florida newspaper, when shelling nuts or preparing for a 4th of July celebration.

A child's first efforts at speech are made with no appreciation of the necessity for making the meaning clear to his audience. He understands it and therefore probably assumes that his listener also understands. This phase of speech is commonly referred to as *egocentric speech* and is probably our best example of verbalization of thought. As the child develops he begins to recognize the necessity for socializing his speech in order that it may be more comprehensible to his audience, but children at play continue to indulge in this speech for self or thinking aloud until the 8-12 year level. As the child grows older we see a gradual but progressive involution of egocentric speech which in its non-vocal phase is known as inner speech or "the first materialization of thought."

The dynamic act of thinking in the adult may then be summarized as follows:

- 1 Thinking is manifest by speech
- 2 This speech or manifestation of thinking is of two types
 - a An inner speech or speech for self, structurally and genetically identical with the egocentric speech of the child, and
 - b External speech or speech for others
- 3 The expression of thought or the meaning of speech is dependent upon the meaning of words.

- 4 Word meaning develops in the child through the stages of:
 - a. General association
 - b. Specific association, and
 - c. Concept formation
5. An individual's concept of a word is based on its associations gained through his experience, and the concept varies with the total setting in which the word is used.

This discussion is a bit abstract and over-condensed but a retention of the basic ideas will make the more common thinking disorders less confusing to the physician.

The disorders of thinking may be divided arbitrarily into

- I. Disorders of content
- II. Disorders of rate and progression
- III. Disorders of form and organization.

I. Disorders of Content. Aberrations in the content of thought are the most spectacular and perhaps for this reason most commonly noted of all disorders in the realm of psychiatry. The delirious states of the toxic reactions and the paranoid and hebephrenic states in the schizoid disorders are the usual settings for content disturbances. They are, however, encountered with considerable frequency in affective, organic and psychoneurotic states. The origin of the symptom is, in most instances, unknown, and the actual content is colored by the personality and experience of the patient. The aberrant content is usually spoken of in terms of delusion, hallucination, ideas of reference, passivity feeling, feeling of unreality, obsession, compulsion, phobia, catathymic thinking, etc. They are all secondary symptoms of an underlying disorder.

II. Disorders of Rate and Progression. Variations in the rate of flow of the stream of thought without impairment in the quality occur most commonly in the affective disorders. The push of thought in the manic and the

retardation and slowing in the depression are the purest forms of variation in speed of the thinking process. The appropriate affect accompanies these symptoms, the manic exclaiming that ideas come fast and easily while the depressed person complains of the great effort required in thought. Another common affect colored variation in the rate and progression of the stream of thought is the flight of ideas often noted in the manic patient. This disorder is secondary to the press of ideation and distractibility, and is a verbalization of the patient's hyperoriented hyperkinetic thinking with no formal attempt to make the production coherent to the listener. The attitude of the patient is quite similar to that of a child indulging in egocentric speech—he understands it, assumes that it must be clear to his audience and becomes impatient at the lack of understanding.

III. Disorders of Form and Organization. Impairment in the organization of thought and disturbances in association are manifest in a variety of ways. This disorder is thought to be due to an inability to form the proper concept of the situation and a resultant failure to choose the appropriate idea or word. Others speak of a "regression" to a childish mode of speech and it is true that so-called schizophrenic thinking abounds with examples closely resembling the productions of children who are indulging in egocentric speech. In spite of this resemblance in form it is quite probable that there is a fundamental difference in affect in the two situations. The child believes he is understood, because he understands himself, and experience has yet to teach him the necessity for socializing his productions. The psychotic patient, on the other hand, is probably indifferent to his audience and makes little effort to clarify his meanings in many of his productions. Reasons for this belief are found in many paranoid patients who reason with no appreciation of the lack of logic in their delusional system but who can conduct their daily personal affairs with little

or no aberration in content. Many chronically psychotic patients develop such marked defects in their constellation of ideas that they are little more coherent than the babbling child but even in this group of patients one finds examples of coherent, logical requests for food, visitors, tobacco, etc., which require at least some preservation of adult speech function. Some workers have become overly committed to the "regression" theory and one finds books devoted to the premise that thinking and speech in the schizophrenic resemble "archaic" forms of speech used by certain native tribes. The examples given are largely figures of speech and are probably "primitive" and "archaic" only because the authors and readers were not intimately familiar with the colloquialisms and habits of life of the particular tribe under observation. One doubts that our expressions of "Take a powder," "nipped in the bud," "a snifter," or "a snort," would be much more coherent to the "primitive" objects of some of the investigations. The chief value of the literature on regression to "primitive and archaic" forms would appear to be in the fact that the work itself contains many skips in logic often described as evidence for disorders in the thinking process. The disorders of form and organization are often overlooked unless they appear in an advanced stage in chronically psychotic patients. For this reason examples of several disorders will be listed below.

1 *Dissociated Thinking*—In so-called normal thinking a person constantly chooses from an immense number of possible associations that have been created by the individual's past experience. The final selection is guided by the goal idea, modified by affect, and finally organized according to the person's concept of the situation. For example if I am in the surgery and think of alcohol I then associate it with dressings, cleansing of skin, etc., but if at a party, the associations are of drinking, past indulgences and the gregarious pleasures associated with intoxication. In the schizophrenias the associations no longer follow ordinary channels

toward a final goal but may suddenly leave the primary topic and wander off on some irrelevant byway. The classic example is the schizophrenic patient who, when asked the question "Who was Brutus?" answered "Brutus was an Italian." In his answer the patient displays an understanding of the problem and gave the right association to place, but failed in the time association. Still more advanced cases show a complete lack of sequence and are not associated with anything apparent. Example I went for a walk/ God is in me/ They say I am immoral/ Nurse, nurse, nurse/ Where is my baby?

2. *Combining or Fusing Ideas That Have No Logical Connection*—This symptom is occasionally seen in advanced schizophrenia and is similar to some of the false or chance associations reproduced in the speech of children. For example, a patient sitting alone laughing was asked why he laughed, responded "because you are a doctor" in spite of the fact that he was laughing prior to your appearance. Another example is the patient who knows the doctor is married and the nurse is married and assumes that they are man and wife.

3. Several different ideas may be combined in a process called *condensation*. The Bleulerian example is the patient who sees a steamer and a sailboat and speaks of "Steamsails."

4. Displacement of ideas in which one idea appears for another is seen in the productions of schizophrenics and in certain psychoneurotics. An example was seen in a patient, Mrs. Smith, who had been mistreated by an instructor while a student nurse. In the hospital in which she is a patient there is a nursing instructor who remotely resembles the patient's former teacher. The patient attacked the instructor at every opportunity but cooperated well with the other nurses on the floor.

5. *Symbolization* is a special form of displacement and is frequently used by schizophrenics on occasions where the ordinary person would have expressed the real idea

Bleuler's example is the pregnant schizophrenic who expressed the fact that she was pregnant by stating "I hear a stork clapping in my body." Another example is speaking of impending death as "the hovering of angels." In the schizophrenic the symbol takes the place of the original idea unnoticed by the patient

6. General vague notions are utilized where a concrete statement would be the expected reply. An example is the schizophrenic's explanation for a quarrel with an attendant over a cigarette, "Because I hate to be in the hospital." Here the general unrest at confinement is given as the specific cause for some inappropriate action

7. *Mediate associations* are often found in association tests in schizophrenics. Example (from Bleuler). To the stimulus "wood" the patient responded "cousin." This because his cousin was dead and buried in a wooden coffin

8. *Lack of a Central Idea or "Skidding"*.—Patient's productions are such that neither the patient nor the physician know why such ideas are expressed. The train of thought sometimes resembles a flight of ideas, but the absence of an objective becomes noticeable through the lack of emotional tone. In a true flight of ideas, an objective is present, but this objective is frequently changed due to external or internal stimuli. The objective is also clothed with the appropriate affect in a true flight of ideas. Bleuler's example of skidding is the essay "Blossom-Time for a Horticulturist" which is copied in part

"At the time of the New-Moon Venus stands in the August heavens of Egypt and with its rays of light illuminates the harbors of commerce, Suez, Cairo, and Alexandria. In this historically famous city of the Kalifs, there is situated in the museum of Assyrian monuments from Macedonia. There plantain flourishes next to maize columns, oats, clover and barley, also bananas, figs, lemons, oranges, and olives. Olive oil is an Arabian liqueur-sauce, with which Afghans,

Moors, and Moslemites carry on the breeding of ostriches.

9. *Circumstantiality*.—A frequent change in the direction of the train of thought, but the goal idea is maintained and ultimately reached. There are numerous digressions, but the general pathway of the story is incapable of distinguishing between essentials and nonessentials, and thus must go into unimportant details as fully as into the main issues. This condition is found in schizophrenics and organic psychoses, being especially common in the senile states.

10 *Generalizations*—In this symptom a thought which logically applies to one person or subject is applied generally. An example would be a schizophrenic who felt that every reference to the color red implied prostitution and was an invitation for coitus. This symptom resembles the stage of generalization of associations seen in the very young child.

11 *Impairment of Logical or Normal Associations*—Example. To the test "Two children fell into the river. One was rescued and one was . . . ?" a schizophrenic responded "saved."

12 *Obstruction or Deprivation of Thought, Blocking*—The patient may say that their thoughts are drawn away from them by some outside force. In this condition the progression of thought stands still for a short period of time, and the patient can find no cause within himself, so he projects it to some outside force. The obstruction may last for a few minutes or many hours. When the obstruction is over, a new thought, which had no connection with the obstruction, may appear. For example, a schizophrenic who is asked, "Where is your wife?" responds, "My wife is . . ." and is unable to go on. After a few moments of sterile effort he may continue feebly with "She works." A physical analogy would be the sudden closing of a valve on a stream of water. When the obstruction disappears, the stream of thought goes on as freely as before.

13. *Brevity of associations and impoverished thinking* occur in many cases. In this phenomena the patient is satisfied with an abbreviated thought without carrying it on to its logical conclusion. For example, a patient reads a fable but cannot repeat it unless prompted step by step. Or when asked to tell of his divorce a patient answered only "I am divorced." Why? "She ran away." Why? "We didn't get along" etc. This symptom also resembles many of the egocentric productions of the child, but probably differs in the affect present.

14. *Perseveration* is the persistent repetition of one word or groups of words, in spite of the individual's attempt to change the topic, and the observer's attempt to introduce other stimuli. For example, a patient is asked how old he is, and answers, "I'm 28." He then continues to repeat "I'm 28" to subsequent questions in spite of his effort to answer relevantly. In most cases the answer was relevant to the original question but bears no relation to the succeeding ones. This occurs in many organic cases and in some of the advanced schizoid disorders.

15. *Neologisms* sometimes occur. They are words of the patient's own making and are often condensations of several other words. Originally they have special meaning for the patient. An unusual example of this is the so-called "Quintalk" of the Dionne children which is a language they have developed for themselves and which they alone understand. Another example is a patient who felt he had special powers due to "stagnatic electricity" in his body.

16. *Rambling* is very common. Garrulous patients will relate a long story, mixing heterogeneous portions with no attempt to combine them into a concise story. There is an apparent loss of the goal idea. For example, a patient tells of his travels, his work, and his numerous marriages, without any attempt to weld it into a coherent account of where he has been or what he has seen.

17 *Omissions* are seen, the patient leaving out a significant phrase or sentence in his expression of an idea. For example, a patient states, "The train came roaring down the track."

"Forty persons were killed." He omits the significant sentence, "A portion of track had washed away in a flood and the train was wrecked."

18 *Pseudoprofundity* is often seen and consists of simple thoughts expressed in aphorisms, poetry, etc. For example, a patient who wished to say that his parents did not get along together stated, "They get along like sulphuric acid and sodium hydroxide" or one who described his wife as "more beautiful than the temples of Rome and more imposing than Gibraltar."

19 *Asyndetic thinking* is a lack of integration of speech, ideas that are relevant are grouped together without any attempt to make a logical connection between them. For example, a patient says "The wind blows because it is time to blow." "The sky makes it blow." "Because it is high in the air." Similar examples of this reasoning are seen in the child in the pre-logical phase, and in this sphere are referred to as juxtapositions.

20 *Metonymic distortions* are felt to be due to faulty concept formation. In this symptom the patient fails to make a precise choice of term with the result that the expression is only an approximation of the original theme and requires translation. For example, a patient states his body makes a shadow "because it hides the part of the light that is used for full room capacity or area capacity which you intervene."

There are undoubtedly other examples of disorders of the thinking processes but familiarity with the above material will greatly expand one's field of examination and increase his understanding of the behavior and activity of the psychotic patient.

The examination for thinking disorders may be conducted in a variety of ways. Various authors have offered cleverly

devised tests in which one must associate likes and differences of figures. Some are more complex and require the formation of new concepts before the proper association can be made. Other tests use proverb interpretations, incomplete sentences, word definitions, word associations, and simple problems in logic as the basis for the test situation. All of these procedures are helpful, but all of them share a common defect to a varying degree; that is the psychotic who is only moderately disorganized is able to meet the test situation and gives the usual "normal" response to the test, because he appreciates the test situation and has enough preservation of affect to make every effort to meet it adequately. The same patient in spontaneous conversation, or in a question-answer interview may show a wealth of material representative of disordered thought, probably because in this latter situation he is rather indifferent to the reaction of his audience. We have had good success in demonstrating these aberrations in the phenomenon of thinking in the patient's spontaneous conversation and in essays or letters to relatives as well as by use of any of the more formal tests. The Rorschach experiment also demonstrates disorders in thinking.

Normal and Abnormal Mood Life. An important, and perhaps the important phenomenon of a large group of psychoses (manic-depressive) is the amount and character of the emotional reaction. In one phase of this disease, the emotional life seems to be overemphasized and marked by mercurial-like oscillations (mania), in the other the affective tone is profoundly depressed (melancholia). A single moment of self-analysis will make it obvious to any average man or woman, that their own so-called normal lives are filled with emotional oscillations, although the degree may be relatively slight. But, it may be objected that the "ups and downs" of normal life have adequate causes and are *proportionate to these causes*. This is probably true, but true both in sanity and in insanity. But are these

causes clearly recognized by the individual? A patient suffering from melancholia, who, when questioned, states that she is so miserable and unhappy because "years ago when she was a child she stole an apple from the corner grocery and now for punishment she must burn forever in hell fire" is, of course, simply unaware of the real psychological cause of the depression. The normal, sane man who bursts into a tirade of passion at some trivial error by his stenographer, delay in completing a telephone connection, a bad golf shot; or the noisy behavior of one of his children, is somewhat like the mental patient, in that he is having an emotional reaction out of all proportion to the trivial incident which he assigns as the cause. He too, is unaware, or at best only faintly aware, of the *real motivation of his storm of anger*.

Day-dreaming and Phantasy. In one psychosis (dementia precox) which happens to be statistically the most important, we can sum up the psychology by stating that the patient retires mentally from the world of reality and constructs a fanciful world of unreality which is seemingly quite satisfactory for his mental needs. What is this phantasy formation other than day-dreaming carried out to an extreme but consistent degree? Now, day-dreaming is an everyday phenomenon of normal mental life; is very usual during adolescence, and never wholly disappears even during maturity. Traces of day-dreaming may be found even in the hard-headed man of business. What is its objective? It is simply a compensation for the hard facts of reality; a temporary indulgence in pleasing and comforting phantasy, which so easily supplies all those things which everyday existence may deny. The day-dreaming of normals is a transient affair and is readily displaced by practical considerations, the day-dreaming of the schizophrenic is complete, cannot be terminated, and makes up the sum total of mental life.

If the student is able to accept the psychobiological conception up to this point, he will come to believe that mental disease differs from sanity in degree but not in kind. He might then be willing to agree that if the observer could see the whole chain of events which led to the formation of a delusion or any other mental symptom, it would become much more understandable and would, at least, approximate the phenomena of normal or average mental life. A psychiatrist of long and fruitful experience once remarked that the chief difference between the normal man and the one who was mentally sick, was that the latter was inside the walls of a hospital and the former was not. He meant to imply that insanity induced anti-social conduct and, therefore, required restraint, attention and treatment.

Perhaps, it may be granted that mental processes, not only in health but also in disease of the mind, are part of orderly nature or as we say, governed by psychological laws. All considerations as to the nature of these laws will take us into very debatable territory in which we want to know how far we get away from what proves itself, therefore, discussion may be continued only with the strict reservation that it is largely hypothetical. Furthermore, it must be given briefly, therefore will be little more than a summary. It is suggested that the student pursue the subject in the excellent expositions given by Bernard Hart and others, and in the several contributions by the authors (see section on "Personal Mental Hygiene" by Strecker in Nelson's Loose Leaf Medicine).

PSYCHOLOGICAL MECHANISMS

Perhaps the consideration of the *complex* will constitute a satisfactory point of departure. *A complex may be thought of as a group of related ideas, vivified by a strong emotional tone and striving, more or less, to express itself in the stream of consciousness.* Complexes are not to be regarded as

distinctly abnormal phenomena, since they are a component of every individual's mental life and we may witness typical examples in the so-called hobbies of men—the coin or stamp collector, the golf enthusiast, the baseball fan, and the like. Complexes are readily stimulated into activity, and find or make associations with the greatest ease. They are so keen to produce action in consciousness as it were, that they find associations in material which, at first glance, seems foreign and unrelated. Because of their deep emotional character or bias, they cannot produce what might be called intellectual or logical thinking, the individual with the complex is prejudiced in its favor and in favor of anything which might serve it, and is scarcely able to receive and weigh arguments which oppose its continuance. The man who has a complex (and we all have them) may recognize it (though he would probably designate it as a healthy interest) but, often, one is unaware of the existence of the complex and then, perhaps, he is particularly impervious to arguments or persuasions which threaten the continuous life and activity of the complex. For example, when, let us say, the antivivisectionist is faced with arguments concerning the great utility of measures derived from animal experimentation, like the antitoxin of diphtheria, he will answer in detail with elaborate counter-arguments which he regards as highly logical. It is fairly clear, however, that his remarks are emotionally produced and directed. He is not logical at all; in fact, his anti-vivisection complex has brought about a "closed mind" on this particular subject. Seemingly all of us have a strong need for maintaining a fiction of what we call "reasoning," yet, often, we do not reason at all, but simply deceive ourselves in this respect. This self-deception may be termed *rationalization*. It is exceedingly common in everyday life.

To resume, briefly, a complex may be *directly expressed* and this is so, when the person is largely aware of his com-

plex, as in the case of the golf enthusiast or the baseball "fan," or it may be *indirectly* expressed in consciousness, when the individual is unaware of its existence, as in the case, let us say, of the woman, who in early life was disappointed and grossly deceived in a love affair. In such a situation the bitter experience may have been more or less successfully repressed and the complex engendered may "come out" as various propaganda activities, which assail the position that the male of the species is said to have assumed as the "Lord of Creation." Not always, but some times, such (and similar) propaganda activities have their origin in a complex which is striving to appear in consciousness and which has been subjected to a process of repression with consequent self-deception or rationalization. The psychobiological conception assumes that (1) much of the behavior of those who are mentally sick, (2) many of the delusions and (3) other phenomena, may be traced to understandable chains of psychobiological events. For instance, the patient with delusions concerning great physical strength and perfection of physique may be expressing and compensating for a life-long and degrading feeling of inferiority based on physical weakness and imperfections which he has not been able to consciously face and accept.

Psychobiologically speaking, a complex *will not cause trouble* unless it tends to produce action which is in opposition, and, perhaps repugnant to the remainder of the personality. If it does cause action which is so opposed, or is repugnant, then a *conflict* must arise. To illustrate. A married woman falls in love, and is, let us say, the mother of children who need her care and protection. A mental conflict must ensue between the desire to run off with her lover, and the demands of the rest of her personality, which insists on a recognition of what might be called the ethics of the situation, i.e., her duty to her children and husband; the requirements and expectations of society and civilization,

and many other considerations. There is a clash or conflict which leads to an impasse and it demands a solution. What are the possibilities? The conflict may be honestly and openly faced, weighed and considered until a decision is reached; perhaps the decision is to remain with husband and children and a determination to follow what might be called the dictates of duty. But this does not always take place and often the mind seeks to avoid the conflict. Various expedients are available. One expedient, which is tremendously important psychobiologically, operates by preventing the clashing tendencies or opposed elements of the conflict from coming into contact with each other. It is not an ideal solution, but it preserves mental peace and avoids the disagreeable conflict with its consequent emotional strain.

This method is called *dissociation* and is a common phenomenon, both in normal and abnormal psychology. In effect, *dissociation is the separation of the mind or consciousness by a splitting off of one (sometimes more) component or system of ideas, the personality or remainder of the mind being unable to exert any control over the split-off portion*. This phenomenon of dissociation may be witnessed in the automatic writing of hysteria, in somnambulism, in double personality and in the many delusions of patients, for example, in the patient who can consistently believe that he is Jesus Christ and maintain this belief in spite of every argument directed against it or the obvious gross incongruities of his daily life. Likewise, many numerous examples of what amounts to dissociation be found in our everyday life, and in a somewhat similar manner we preserve our pet hobbies, beliefs and prejudices from contact with anything which might destroy or weaken them. Often they have arisen in our childhood and some of them are apt to stay with us even to the grave, in spite of the fact that innumerable experiences, not only of others, but our own,

are directly opposed to their validity and their logical right to continued existence.

If, as has been indicated, and as is often the case, it is not possible to attain complete isolation or dissociation of the complex from the opposition and contradiction of the remainder of the personality and facts of the environment, then the phenomena of rationalization may be employed. A few examples may suffice. The man who has a reputation for probity and morality, who is unimpeachable in practically all the relations of his life; morally solvent, and not really a hypocrite, may habitually defraud the government of a portion of the income tax which the law demands. His answer to an indictment would be that the tax is unreasonable, that the government wastes the money etc., etc. Strange as it may seem, often he believes that he is right and logical. He is merely rationalizing his conduct. The attitude of thousands toward the Volstead act is as typical an example of rationalizing as one may wish to find. Likewise, in the sphere of abnormal psychology, when we attempt to point out to the patient, who believes that he is the "second Christ," that this cannot be so, that his life is not at all Christ-like; that he is in an asylum, has been for years and makes no attempt to leave, that his so-called "miracles" are obviously silly; that not a single one of his prophecies has come to pass and so on—he merely smiles in a superior fashion or perhaps explains in detail that all these apparent contradictions and failures are merely divine methods of testing the faith of the skeptic. Again he is rationalizing.

There are many psychobiological methods utilized, chiefly in the effort to prevent the complexes which are at war with the personality of the individual and society from reaching the surface in their original form. Since, however, complexes demand expression in consciousness, mechanisms

are employed to disguise them effectively, so that they will appear in a form not offensive to the personality

There is a psychobiological phenomenon termed *repression*, which may be defined in a few words, *as the more or less deliberate forgetting of a painful, unpleasant or shameful experience or one that is so considered*. There is some reason to think that in some degree this happens in the lives of many men. A common example cited by psychopathologists concerns the observation that frequently there is little or no conscious recollection of early childhood sex experiences and practices. It must be made clear that according to this school of psychopathologists, repression is not at all synonymous with forgetting and it is stated emphatically, that forgetting in the sense of destruction or wiping-out or annihilation of a memory, so that it disappears and leaves no trace is an impossible conception and cannot occur any more in psychology than can the annihilation of matter in physics. Repression does not denote non-existence and the complex continues to find expression in consciousness by various indirect and devious routes. The route is devious and indirect because of the interposed resistance against the complex by the remainder of the personality and by what might be called the expectations and requirements of civilization and society.

In abnormal psychology, particularly in the neuroses as well as in everyday mental life we may find numerous illustrations of repression and of the devices employed so that the complex may live and express itself in the stream of conscious life and behavior. It is asserted by many psychopathologists that great activity in certain directions may be the expression of denied and repressed sex life as perhaps, in propaganda for public morality, or in an exaggeration of personal cleanliness that may indicate the repression of unpleasant memories of earlier indecencies. Even the very

choice of an occupation may be determined by the repressed complex and its demand for an outlet in consciousness. In this connection one is reminded of the old adage "murder will out."

It will be noted that, in these instances, repressed complexes overcome or escape resistance and manifest themselves as contradictions, or in other words, as qualities opposite to the basic nature of the complex. Thus, it has been said, that the uncompromising propagandist for public morality, and the merciless prosecutor of the prostitute has been lead into this conscious attitude by the drive of repressed illicit sex desires. In the realm of the abnormal the apparent euphoria and happy over-activity of acute mania may be the expression of an actually hopeless situation in real life. So, too, may the obsessions of the psychasthenic be the end link of a psychological chain, whose beginning is a complex unacceptable to the personality. The endless washing of hands sometimes seen in both neurotic and psychotic patients has been interpreted as traceable to a complex of masturbation or other more or less abnormal sex experiences.

To the writers, some of these interpretations, especially those cited as referring to normal mental life and its activities, seem rather forced and extreme. It is doubly unfortunate, that the conceptions of the so-called new school of psychopathology were either presented in too arbitrary a manner or else received with too little discrimination (probably both) so that sharp antagonisms and bitterness have arisen, with the result that the sincere opponents of this school lose valuable psychological concepts while its adherents have deprived themselves of a much needed constructive critique.

There are many other ways in which the complex may elude resistance and appear in consciousness. All of them cannot be detailed here. *Symbolism* should be mentioned

Symbolism is as old as the human race. Language is based on symbols. The play of children is replete with symbols. A child places itself astride a stick and the stick is accepted by the other children as a prancing horse. A little girl drapes a bit of cloth about her body and adult womanhood is symbolized. Later on in life symbolism is commonly accepted. Many of the practices of religion are highly symbolic. In business, a cheque is a symbol for money. The lover begs a handkerchief from his mistress "as a reminder," and so on. In insanity, especially in the psychosis dementia precox, we see curious mannerisms of speech, gesture and gait which are probably remnants of former elaborate delusional complexes. One of the authors has been interested in the so-called late katatonic phenomena of the involutional and presenile psychoses. When these psychoses progress unfavorably, curious automatic or stereotyped movements or speech may be observed and they are probably the odds and ends of former complex emotional reactions, which have degenerated or lost much of their emotional value and are now symbolized by a single motion or one word endlessly repeated. "Dreams are the highroad into the unconscious," is a Freudian aphorism which expresses much truth. It is in this realm that the study of symbolism has reached its greatest complexity. Dreams may be simple reproductions of events or simple wish fulfillment phenomena which are most often seen in their bare outlines in childhood dreams. In adult dreams that which is usually remembered is the *manifest* content, which is often a distortion of the *latent* content. For the latent content to become manifest the repressing forces are evaded by the mechanisms of *condensation*, *displacement*, *symbolization*, *dramatization* and *elaboration*, so that the resulting meaning will be innocuous to the repressing (social) forces of the individual. The dream, like a neurotic symptom, may be an overt expression of the conflict between the impulsive-

instinctive and the repressing (social) forces in man (Reference- Freud- "*Introductory Lectures*".)

A repressed complex may be manifested by *projection*; that is the personality or remainder of the mind being utterly unable to face or accept it, simply regards it as belonging to another. Is it not more or less true that we are especially severe in our judgments of our own faults when they appear in others? Sometimes, a man who manages to "break into" an exclusive club or society for which he is not wholly qualified, becomes particularly critical and rigorous in the scrutiny of other candidates for membership. It is notable, that it is the reckless or incompetent motor car driver who on the road unmercifully berates a more conservative and competent motorist for a trivial mistake of which he himself is often guilty.

In mental disease there is some reason to believe that projection is a potent mechanism. Some instances of delusions of persecution in which the "voices" (hallucinations) deride the patient and accuse him of homosexual practices, or people on the street "smile in a knowing fashion" or "lift their eyebrows" (ideas of reference) thus indicating that he is a pervert, seemingly are examples of a homosexual tendency seeking expression in the field of consciousness. The case of a young woman recently widowed is sometimes cited as an apt illustration of projection. The neighbors, so the patient complained, indicated in various ways (ideas of reference) and finally whispered so that she could hear (hallucinations) that she always managed to be on the porch, dressed in her best, when the men passed on their way home from work and that she openly attracted their attention and so on. Subsequent developments make it likely, that the phenomenon of projection was utilized to escape the recognition in consciousness of the urge of a strong sexual desire.

Finally, a word should be said concerning *introjection*, which is the opposite of projection. By virtue of this psychobiological mechanism, the patient simply identifies in himself, the admired and desired qualities of others. It is probable that introjection explains a large portion of the phantasy formation and it may account for many of the "kings" and "Emperors" and "Prophets" who reside in mental hospitals.

The student will probably recall the fable of the fly on the axle of the thundering chariot, who remarked. "Lo, what a dust I raise."

Introjection is not an uncommon phenomenon in every day life. Probably, when we are tremendously interested and, perhaps, held spellbound by a particular play or book, it is because, for the moment, we are merging ourselves into and identifying in ourselves one of the characters depicted on the stage or on the printed page. In the day-dreaming of adolescence especially in the "puppy love" stage, the boy may identify in himself some chivalrous knight, a great aviator ace, an all-American football player, etc.

Crowd-minded Behavior and Mass Reactions.¹—The increasing frequency and alarming greater menace to our civilization and our cultures of crowd-minded behavior and mob reactions constitutes a direct challenge to psychiatry. More than the other disciplines, philosophy, political economy, sociology and psychology, psychiatry, by grace of its long apprenticeship in human experience, should be able to exert constructive resistance against the impact of mass behavior. The application of the psychobiological approach to the mal-adjustments of the individual has demanded a consideration of remote and deeply underlying factors as well as immediate and surface ones. The method

¹ Based on the book, "Beyond the Clinical Frontiers" W W Norton, N Y C, being the Publication of the 1939 Salmon lectures

provides for a widely inclusive perspective which is illuminating when it is applied to crowd-minded behavior

When psychiatry lifts its eyes from the study of its separate patients and accommodates its vision to the vista of mass behavior, it sees the same pictures that it has come to recognize so readily in its mental patients—enormously amplified. The crowd-man en masse has the enormous physical stature and strength of the brute, intelligence at a childish level and behavior largely characterized by dependence upon the violence of poundage. On a scale of intelligence the mob is inferior to a paranoiac and even below well-organized paranoid conditions, not only in behavior but also in the matter of mature thought discernible in the elaboration of its theme and in the logical nature of the drive toward the attainment of its objective. The crowd-man has severed himself from the economic, political, cultural and ethical moorings of his historical heritage. He receives no stimuli from the subsoil of history either in the direction of experiences to be avoided or of ideals to be regained. No authority or limitations are recognized. The only authority is the sheer weight of numbers—poundage.

Scrutinized more closely the mob is narcissistic, megalomaniacal and paranoid. The narcissism is obvious and childlike. Unscrupulous propaganda takes advantage of it, readily flatters the mob and thus easily prepares it for violent and destructive action. The megalomania and hostility, too, are childish, inferior in intellectual dignity to similar reactions in the mentally sick, devoid of logical sequences.

The crowd-man is not restricted to low economic levels. He is everywhere. His markings may be found in the adherents of many ultraconservative crowds, politely called "groups" and "movements," economically well placed, whose thinking is as closed to the realities of life and is as deeply immersed in anachronistic unreality as is the thinking of the uncontrolled mob.

As the psychiatrist looks beneath the surface of violent and non-violent crowd-minded behavior, he witnesses the same disruption of the intelligence--emotional formula--that he sees in his patients. However, in these active and passive mobs the shift is decidedly more to the emotional "left" so that scarcely a shred of intelligence and logic remains.

It is thought that when the mob is in action it is responding blindly to a spontaneously generated crowd unconscious, something separate from the unconscious of each individual unit of the mob. Probably this is true with reservations. As in candidates for certain psychoses, the prospective member of the mob must have a personality, capable of discounting in advance the realities of law, order, intelligence and ethics. Therefore, there is a kinship between the personalities of those who go into the making of mobs. Nevertheless, it is unquestionably true that the number of personalities available for mob behavior is increasing alarmingly. The higher incidence would seem to be strongly influenced by the many critical and catastrophic situations of our civilization.

At the depths of the motivating influences of mob action there are stark forces, again similar to those which are uncovered far beneath the archaic and regressive behavior of certain mental patients. Under certain conditions well understood by professional and unscrupulous propagandists, these deep archaic layers may be exposed and primitively violent drives unleashed.

The Freudian school explains the motive force of mob behavior in the terms of the identifications of the unit members with the leader--the expiation of the guilt of the ancient parricide of the father of the tribe by the sexually frustrated sons. The identification with the leader, the merging and unity of all in him, quells the super-ego and permits murderous violence.

In any event, every symptom and mechanism of mental disease is duplicated in crowd-minded behavior

Always there is *rationalization*—the wish to believe that which it is pleasant to believe. In many so-called modern “movements” there is a surface frothing of rationalized plausibility covering deeper layers of emotional drives, bias, prejudice and intolerances

There is a close kinship between the *projections* of crowd-mindedness and those of the mentally sick. In the mob the bolus of undigested psychopathological food is larger, and the need of removing it beyond the pale of awareness is even more imperative. Thus the mob spews forth upon society the mass of its separate and communal maladjustments. In the projection of the mob there is more open hostility and less logic than in the projection of the paranoiac

Just as the mental patient must keep the conditions, practices and facts of his everyday life rigidly separated from his highly placed delusional beliefs, by the mechanism of *segregation*, so, whether it be of the crowd, of the mob or of the emotionally intoxicated group, the crowd-mind similarly must protect itself against any mixing of its “ideas” and its practices. If it viewed them simultaneously, the recognition of the gross contradictions that exist would be psychologically fatal. Crowd-minded repressions, too, must be very deep. Therefore, crowd-minded men, no matter whether they march to war, to a lynching, to a violent strike or a bloody strike-breaking, or correctly garbed in evening clothes, move toward the goal of this or that “movement,” if they be truly crowd-minded, must move between emotional walls high enough and thick enough to keep out sight and sound of ego-damning inconsistencies

In crowds and mobs, symbols serve in the same way as in chronic mental patients, i.e., in order to produce a dangerous over-economy of thought, as in a mental patient of mine whose once elaborate delusional system eventually became

reduced to a shred of dirty cloth worn on his lapel to which he merely pointed to signify that he was the "Highest Potency" Those who use mobs for debasing purposes, freely employ the symbol—the fanfare of trumpets or the roll of drums, the dramatic pause, then the utterance of the slogan or the display of the insignia At once intelligent thought ceases and only platitudes and generalities are needed. Irrespective of the economic or social level at which it lives, the crowd-mind by measure of the symbol is grossly delusional

The compensatory behavior of the mob in the effort to keep ahead of its inferiorities is much like that seen in many psychotic patients First strong emotional identifications and finally there are the massive compensations of paranoia and megalomania Unfair and even violent methods are justified by the "sublimity" of the end Differences of opinion are interpreted as planned persecutions There are sacred principles to be vindicated—by force and by the shedding of blood. The crowd speaks for the Deity The mob is messianic. It is the great deliverer And it insists on delivering society on its own terms—terms of poundage and violence So does the crowd-mind fulfill its compensatory destiny. Thus does it write—and often with blood—the epilogue of its inferiorities in characters just as grossly obvious as the paranoid delusional formations of violent inmates of chronic wards of mental hospitals

So, if space permitted, one might trace the similarity in pattern in mental patient and mob, symptom by symptom, mechanism by mechanism—excepting in the mob the pattern is massive and dangerous

Psychiatry cannot be enthusiastic about the various solutions offered in the face of the grave menace of crowd-minded thinking and mob violence Propaganda can only intensify the danger to our civilization and our cultures. The various political expedients, Fascism, Communism, Totalitarianism

are dated by their archaic practices. They are mass psychopathologies. It is doubtful that we will find our cultural and spiritual salvation by grade of the amazing advances of the technical sciences. Too often they are divorced from true culture. Too often, constructive potentialities of technical achievement are destroyed by the employment of the machine or instrument for wanton destruction. As Joad remarked: "The aeroplane was made by superman but has fallen into the hands of the apes."

Stimulated by the studies and deliberations of psychiatry, mental hygiene is willing to stake the future of civilization on education but education without lurid and dishonest propaganda. Mental hygiene realizes full well that non-crowd-minded, sane and mature thinking and constructive action from intelligent minorities, well-founded in intelligent thought cannot be suddenly recruited. In order to remain and become effective the impress of a mentally hygienically conditioned education must be made in early childhood. And education must be humanistic—"Knowledge is humanistic in quality not because it is *about* human products in the past but because of what it *does* in liberating human intelligence and sympathy. Any subject matter which accomplishes this result is humane and any subject which does not accomplish it is not even educational." Unless the task of mental hygiene education is soon undertaken on a large scale and diligently pursued, then it may be too late to save our civilization and our cultures. Each student of psychiatry should pursue the studies of his patients with the thought of the application of the findings for the social weal.

Summary and Remarks. There are other phenomena which have an influence in mental life but the essential ones have been mentioned. It may be profitable to briefly restate the subject matter of our theme. The psychobiological conception begins by advancing the hypothesis that all of the activities of an individual should be studied in relation

to each other in a particular setting. Where strictly organic lesions can be demonstrated these should be evaluated and treated in relation to the whole picture. Where psychogenic causes are the predominant features in the etiology these should be studied, beginning with the origin, if possible, and studying successive phases in development up to the present picture, since it is believed that mentation operates according to certain laws which are as fixed as the laws of physics, and it follows that these laws operate alike for the mentally ill as for the mentally sound. No distinct identity is accorded to the so-called "mind" since the concept of the latter was only artificially created to explain the "minding-function" which depends upon inherited structure, and physiological processes like metabolism, oxygenation, etc., but both structure and physiological function are modified from conception by the forces of environment through home, school, family, community, occupational, religious, recreational, economic and sex requirements. The "minding-function" emerged as a new quality in the evolutionary process but is intimately related to all the biological processes which gave rise to it. Hence, everything that went into making a man is a part of his personality, and is consequently related to any disorder of that personality.

The pluralistic view is offered as being the common sense one in regard to the controversial questions of heredity, congenital predisposition, constitution, infection, sex trauma, urge to power, etc. as etiological factors. Diagnosis and treatment are to be active, dynamic in character to correspond to the genetic-dynamic picture of the growth and development of the personality. When we try to state the laws which govern the actions of the "minding-function" we find that it is best to employ as few generalizations and preconceived theories as possible and to follow the laborious but productive method of studying each case as a different

"experiment in nature," allowing that case to present its own etiology and development.

In conclusion we can say that definite progress has been made in understanding mental illness; recovery and improvement are the rewards of carefully managed cases, however dim some of the workings of the human personality may be at times, we are sure of an approach, and will depend upon sound clinical experience to broaden our understanding.

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CHAPTER II

PRACTICAL AIDS IN THE STUDY OF MENTAL DISORDERS

The opinion that causation in mental disease is a sealed book, and that psychiatrists are always forced to speculate about unknown qualities should be vigorously contradicted. In Chapter I the basic ideas of causation were indicated; here we shall elaborate the actual methods of attack. Frequently, etiological agents are uncovered which are identical with those which play such an important role in the production of the pathology of internal medicine and the specialities, i.e. syphilis, alcohol, drugs and metallic poisons, arteriosclerosis, toxicity, either endogenous, due to metabolic or endocrine disturbances, or exogenous, due to infections, drugs, trauma, etc. The common-sense view that functional (non-organic) diseases are due to a multiplicity of causes which are often psychogenic (non-organic) makes possible a rational, scientific attack upon these disorders. It may be useful to illustrate this view by a diagrammatic representation.

The individual is symbolized by a circle (A) and normality or sanity is equivalent to perfect contact with reality or environment at every point. On the other hand, mental disease is synonymous with unreality (X) of which there are naturally many grades of severity, pictured by the smaller circles included within the circle (X). The zone of defense is the amount of resistance which a given individual is able to interpose against the development of a psychosis. It is obvious that the defense zone not only varies in different individuals but also that it cannot be static and therefore

is never the same at any two periods in the life history of an individual. Its amount, or, diagrammatically, its thickness is dependent not only upon inherited, intrinsic and constitutional deviations and weaknesses, but also upon acquired, extraneous and environmental handicaps

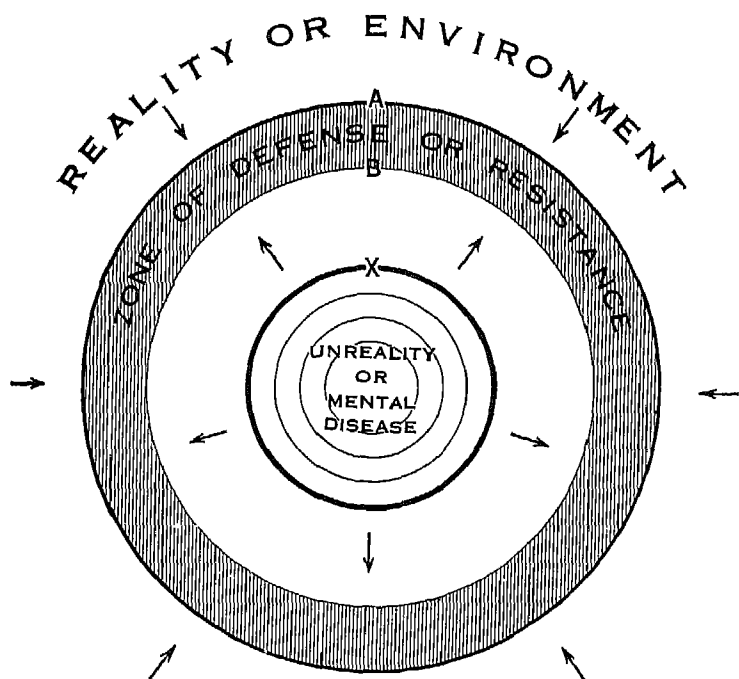


FIG 1

and liabilities among which must be included every possible type and degree of psychogenic stress and somatic strain. Thus, the development of a psychosis usually may be interpreted *not* as an acute process but as a *gradual impairment of resistance*, either because the latter was intrinsically insufficient to meet ordinary demands, or because the demands became too frequent and too severe, or, commonly, because both conditions existed. Once the resistance has

become seriously diminished and impaired even an insignificant thrust from the environment may be sufficient to break through and then for reality or sanity there is substituted unreality or mental disease. It cannot be emphasized too strongly that the painstaking and laborious method of evaluating all the factors which diminish the zone of resistance, is the only sure way to understand the true state of affairs.

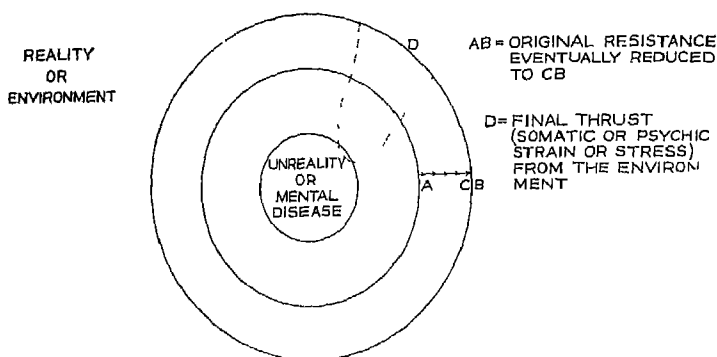


FIG 2

Heredity as a factor in causing mental disease has been shown to be overevaluated as an aid in discussing either diagnosis or prognosis. While some types of disease seem to be more prevalent in certain families, the Mendelian ratio does not apply strictly to any. Insanity is not a unit character whose transmission can be traced. It will be repeated that the number of mentally ill people from "tainted" families is only slightly higher than that of the general population. Physicians need not be intimidated by heredity as a final factor preventing amelioration. There are so many environmental factors which weaken the "zone of resistance" that the physician can bend his efforts to improving these. Probably some individuals inherit less resistant cardio-vascular systems than others; but this is no reason why the cardiologist should become fatalistic.

in his conception of heart and blood vessel diseases. In the given patient, who after all is the chief concern of the average physician and student, the particular fact of inheritance is a "fixed quantity in the equation." Good or bad it is not to be changed and much can be done to influence the patient favorably by improving the environment

While studying a specific case it is advantageous to consider causation in mental disease from the standpoint of *predisposing* and *exciting* factors. Exactly the same situation obtains in internal medicine. A predisposing factor is one which prepares the soil, or in other words, renders the individual liable to develop a given disease. It should be noted that we accept psychogenic causes in the absence of proven organic causes. The exciting factor, on the other hand, actually conditions the presence of disease in the predisposed person. These precipitating causes, however, should not be accepted by us as being the main causes, the latter are usually a gradual accumulation over a period of time of personal and environmental causes. To illustrate. A man, who is an alcoholic, goes on a debauch, takes practically no nourishment and is exposed to inclement weather. He falls ill with lobar pneumonia and pneumococci are found in the sputum. The alcoholism, lack of nourishment and exposure constituted favoring or predisposing influences, the pneumococcus coming into contact with tissues in which resistance was greatly lowered, took root and flourished and soon lobar pneumonia was objectively demonstrable. So do we see analogous situations in the etiology of the psychoses.

The principal predisposing factors are *heredity* (see above), the *life period*, since at certain epochs notably adolescence, the climacteric and old age, the physical and mental strain is very severe, *sex*, its bearing as a predisposing element being largely incidental, since, for instance, only women face the stress of pregnancy and childbearing. *Environmental factors* are of great importance. Evolution and the

progress of civilization has introduced complexities which, probably serve to weaken resistance against mental disease. Civilization has great advantages but it does tend to make more difficult and place inhibitions in the way of a satisfaction of natural instincts. Furthermore, environment also must be considered in its more personal relations. Defective training in childhood is a poor preparation for the battle of adult life and no doubt many an individual gives up the struggle and sinks into unreality or insanity, because he has not been prepared and the odds, therefore, are too great. *Occupation* may predispose either by its direct or indirect effect. It may operate more or less directly as in the case of the worker in white lead, or indirectly, as in the individual whose occupation constantly exposes him to the temptation to over-indulge in alcohol. According to some authors, certain *racial* strains, as, for instance, the Russian Jew, are particularly prone to fall victims to the neuroses. Finally, a *previous attack* of mental disease, even though it eventuates in recovery, unquestionably favors subsequent attacks.

Exciting factors may be divided into those which are predominantly *physical* and those largely *psychic*. Among the former may be cited infection, operating by reason of fever or toxicity or both (delirium), *exhaustion*, as for instance, the energy depletion seen after long and exhausting illness, *endocrine deficiency* or *imbalance*, *intoxication*, either exogenous (as in alcoholism or the occupational poisonous metals and gases) or endogenous, that is, the auto-intoxications (kidney, liver, gastrointestinal etc.); *metabolic deficiencies* as in pellagra, *chronic infections* as in syphilis or tuberculosis; *chronic somatic diseases*, *organic nervous disease* such as apoplexy, brain tumor etc., *head trauma* and *sunstroke*.

The *psychic* exciting factors are none the less potent, even though they cannot be measured or objectively demonstrated. Here, we consider the effect of such situations

CASE NUMBER. Hospital number, Age, Sex Marital state, Occupation

HEREDITY: Pertinent positive factors

YEAR.

Calendar year

1900

1901

etc

Medical surgical, and facts
of the sex life

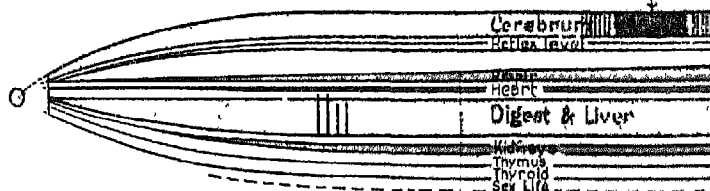
BIRTHDAY.

Age in
years
Date of geographical and
environmental changes

{ This figure represents development and integration
of the various systems of the body beginning at
birth. Organic growth is indicated as the in-
creased width of the column in ratio to the organ
weight at that age

Psychiatric diseases

General reactions of the patient to various changes
noted in the other columns. Trend reactions which
seem important are underlined



Organic growth is indicated as the increased width of the column in ratio to the organ weight at that age

as acute mental fright and shock, disappointments, domestic troubles, business reverses and many others. The majority of these fall under the category of worry. In general, the mind is better able to cope with and survive acute, dramatic shock, than it is to stand out mentally against the slow, insidious but continuous sapping effect of some hopeless life situation.

Psychiatric thought at the present time tends more and more to the genetic dynamic approach. The most clear-cut evolution in the study of mental disorder has been the recognition of the continuity of mental life in relationship not only to the organic growth of the individual, but to the experiences which he undergoes and survives. A mental disorder is to be studied from the earliest beginnings and as a stage to stage process. Very rarely do we find mental disorders developing from a clear sky. This genetic dynamic approach may be studied by three methods. The longitudinal approach which is illustrated in the formula in Fig 3 devised by Adolf Meyer is self explanatory. The formula in Fig 4 represents a schizophrenic reaction showing the development of the schizophrenic process from the earliest stages when treatment should have been instituted. It can readily be seen that in the study of a psychosis through the genetic dynamic approach the patient's present difficulties or symptoms are not the only or even the main objectives for study, but are only one part of the large series of things which later must be studied from the earliest beginnings and dealt with as a whole. The second graphic method of study of mental disorder has been developed in the clinic of one of us, and is termed by the student the I plus S equation which represents a cross section of behavior taken at any significant period of an individual's life. The first graphic presentation deals with behavior primarily in its genetic aspects and relationships and evolution of reaction patterns. The second deals primarily with the dynamic

aspects of behavior, showing it as a reaction to specific situations. We feel that these methods are of fundamental importance to the physician and the student in the understanding of mental disorders, and that they offer in a compact, understandable form a fairly accurate presentation of the case history in all of its aspects. Records of this type are invaluable from the standpoint of teaching psychiatry, and they are essential to demonstrate effectively the rationale of each therapeutic measure undertaken and the results obtained from it. The value to the physician of such a formulation of the case graphically lies in the fact that his attention is immediately directed toward the factors of the individual's makeup or the situations which may be modifiable or correctable. The etiology of a psychiatric case is often as definite and clear-cut as the etiology of other forms of illness. A great degree of individual variation in the forms of human behavior renders it imperative that the etiology be worked out individually in each separate case.

A third type of study which is of invaluable aid to the understanding of an intelligent patient is the autobiography or the planned personality study. The student is urged to learn to study his own personality as a preparation for the study of patients. We feel that a personality study is indispensable for good teaching. It is not the scope of this book to reproduce the complete plan but the practical guide for such study as devised by Adolf Meyer is presented in Billings' *Handbook of Psychobiology and Psychiatry* and in Muncie's *Psychobiology and Psychiatry*.

The outline used in the clinic of one of us has the following headings.

1. General personality survey
2. Special analysis of the psychobiological assets
3. Range and fluctuation of fitness with regard to work, play, rest and sleep

4. Social relations and the relative role of self-dependence and social dependence.
- 5 Sex development.
- 6 The synthesis and balance of the personality.
- 7 Difficulties and handicaps
- 8 Specific disappointments and reactions to them.
- 9 Assets and tendencies, favorable and detriactive, traceable to:
 - a Heredity.
 - b. Developmental defects.
 - c External influences
10. An enumeration of the events, experiences, and situations in life which constitute special dynamic complexes or determining tendencies, in the form of an index of the significant results of the personality study.

Through this personality study of himself the student can best approach the genetic-dynamic picture of the living human organism. Meyer aptly states that such a personality study is as important a procedure as the dissection of the cadaver and is naturally an essential supplement of the ordinary training. Through this experience the student is prepared to extend the work with patients and is taught methods of examination of psychiatric cases. The student studies life facts and life situations in his patients and is not drilled in schemes for classification of mental disorders. This leads away from interest in more or less fixed diagnoses to an interest in the understanding of the whole patient and his problem, studying life situations and reactions, formulating interpretations which can be utilized to understand and modify the adaptation of the individual.

DIAGNOSIS

In psychiatry, the mere naming of a disease process even though it be correctly designated has but little significance

UNIVERSITY OF COLORADO SCHOOL OF MEDICINE AND HOSPITALS
COLORADO PSYCHOPATHIC HOSPITAL

CASE 10091

MAIN FACTS

Pt a 28 year old married white female admitted 60 days postpartum with the complaint that the desire to kill her children constantly recurs. She is frightened by these ideas, but cannot rid herself of them. Considering suicide as an escape and as a means of preventing injury to her children.

INDIVIDUAL MAKE-UP

A PHYSICAL

- 1 Body habitus Pyknic
- 2 Physical defects None
- 3 General health Good

B. INTELLECT

- 1 Level of performance
 - (a) School High school good
 - (b) Work Good, runs dairy
- 2 I.Q. Binet—105

C INSTINCTS

- 1 Self-preservation Strong
- 2 Sex drive Good, well directed
- 3 Herd Strong desire to dominate

D EMOTIONS

- 1 General emotional tone Cheerful, happy and sad
- 2 Stability Poor, tends to periods of irritability and sadness

E PERSONALITY PATTERN

- 1 Degree of organization Good
- 2 Type of response to environmental stress Aggressive
- 3 Special interests and ambitions Interested in expanding business
- 4 Amount and efficiency of drive toward goals Unusually good
- 5 Personal habits Neat, clean, energetic
- 6 Social habits Friendly, outgoing, a leader
- 7 Religious habits Very little interest

F HEREDITY

Good Irish-German stock

REACTION TYPE.
Psychoneuroses obsessive type

REACTION TYPE

4 REACTION TYPE
Psychoneuroses, obsessive type

BRIEF SYMPTOMATIC DESCRIPTION OF ILLNESS
Friendly, dominant, aggressive individual who developed obsessive thinking in a setting of conflicts over marital responsibility and business ambitions with disappointment over the sex of her second child

RESULTS

Marked improvement Patient keeping house, allowing husband to manage the business. Still desires male child Still aggressive

Often an expert may rapidly glance at a cross-section of a psychosis and type it exactly, but nothing of great value has been accomplished. It must be emphasized that we are dealing with sick human beings and not with collections of symptoms. For instance, a patient may appear to have a schizophrenic reaction from a brief survey of the outstanding symptoms, but since a schizophrenic process, or for that matter any other psychosis, is so often modified by the individuality of the patient and the situation which preceded, it cannot be understood and should not be "diagnosed" until it has been viewed from the perspective of the entire life history.

The special features characterizing particular diagnoses, together with important differential diagnoses will be discussed under classification.

PROGNOSIS

Unfortunately, there is a current impression that in psychiatry results are universally disappointing and that the laborer in this field is not repaid for his efforts. It is conservatively estimated that between 60 and 75 per cent of the psychoses which are comparable to what the internist would designate "acute" are recoverable and one need not travel far to uncover in internal medicine large groups, such as certain types of cardiac, vascular, and renal disease or tuberculosis and carcinoma which are both quantitatively and qualitatively comparable to the chronic residuum of psychiatry

Furthermore, prognosis has been too narrowly construed. Particularly in psychiatry do we meet conditions and situations, which are capable of considerable modification in a favorable direction even though a complete cure may not be effected. This is particularly true in incipient and early schizophrenia and the failure to recognize this potentiality has made the outlook seem even gloomier than it really is

Therefore, the art of prognosis should not consist in a handing down of stereotyped opinions which follow rigidly upon the heels of diagnosis, but should be a careful estimate of the liabilities and assets of a given patient and a judgment concerning the feasibility of reconstructing psychopathological, somatic and environmental disorganizations. In the discussion of each reaction type it can readily be seen how such factors as age, sex, race, physical condition, accompanying physical diseases, type of psychotic process, duration of psychotic process, preservation of affect and insight will alter the prognosis

TREATMENT

Psychotherapy comprises all the various mental or psychological methods of treatment of both mental and physical disorders. Psychotherapy may be defined as "an effort to influence in the right direction, the attitude of the patient toward himself, toward his mental and physical processes and toward his environment. It is an effort to teach him to understand himself, his illness, and the cause or causes of his illness whether this cause or these causes lie in his body, in his environment, or in the superficial or deeper layers of his mental life" From this point-of-view psychotherapy includes the more or less common sense methods as evolved by the American School of Psychiatry under the leadership of Adolf Meyer, utilizing rapport based on a thorough understanding of the patient by the physician, aeration or ventilation, desensitization, re-education of patient and his family, and correcting all contributing physical factors as far as possible⁷ In terms of the I plus S equation the principles of therapy center around (1) what can be done to improve the assets of the patient so that he can better meet the situation, (2) what can be done to improve the situation so that patient can make a better type of adjustment, (3) or both. Psychiatry has no limitations

in terms of the psychobiological premise, all the principles of therapy employed in medicine, surgery and the specialties should be employed by the psychiatrist.

At this point one should at least mention the importance of mental hygiene, or perhaps, better, prophylactic or preventive psychiatry. In one sense it may be defined as an organized attempt to reduce the incidence of mental disease, mental defect and allied abnormalities. Both as a medical and popular movement it has attained enormous proportions and now it has many ramifications. There is one aspect, the mental hygiene of childhood, which has a profound significance for the present student of psychiatry who plans eventually to devote himself to general practice, internal medicine or one of the specialties. For the pediatrician, the point of view of preventive psychiatry is indispensable. Many fixed psychotic reactions have their roots in the pre-adolescent years of life and it is a logical assumption that often much could have been accomplished by an improvement of harmful environment which has such a destructive influence on developing personality. A routine study of the child from the standpoint of its psychology, a careful weighing of its normal attributes—imitativeness, suggestibility, love of power, savagery, romancing, curiosity, and principally sexual curiosity, reasoning ability and the like, and an estimate as to whether the surroundings are favoring their normal growth or forcing them into pathological channels, will at once suggest corrective efforts, the application of which may prevent the later appearance of mental disease.

CLASSIFICATION

Nosology is necessarily inexact. Exact and comprehensive classification depends on proven and irrefutable knowledge of causation, pathology and even symptomatology. Medicine is an art and not a science, and there are enough deficiencies

in the information we possess to prevent inreproachable classification of disease. Perhaps this is particularly true in psychiatry. There is a respectable body of information, but unfortunately it is more or less heterogenous and therefore cannot be a uniform basis for classification. For instance, paresis is a clearly understood condition, not only in its etiology but also in its pathological and clinical pictures. On the other hand, we are still waiting for light to be focussed on the etiological agents and possible morbid changes in schizophrenia, although we are beginning to understand the significance of some of its chief symptomatic mechanisms. Yet paresis and schizophrenia constitute numerically more than one-third of all psychoses, and must be included in any list of mental diseases.

Efforts at Classification. Simplicity is always a virtue. The following tentative classification is an attempt to reduce the list of psychoses to three groups in which etiology is fairly clearly understood.

A. Organic Psychoses.

B. Toxic Psychoses.

C. Psychogenic (Functional) Psychoses.

Under A would be included all instances in which there is actual brain damage demonstrable, of which paresis and senile dementia would be examples. In this connection one should remember that 10% of mental disease is caused by some form of neuro-syphilis, which is treatable. Group B would consist of cases in which the abnormal mental phenomena were called forth in response to a toxic agent whether it is hypothetical or demonstrable. The group has a clinical entity because of the similarity of symptoms and signs exhibited. A careful differential diagnosis is necessary to establish the etiological agent. Delirium is a classical example of this group, whether it be due to exogenous agents like bromides, alcohol, or other drugs, acute infections and fevers, industrial poisons, etc., or to endoge-

nous agents due to metabolic or endocrine disturbance. We try to establish metabolic and endocrine disturbance objectively by the regular laboratory examinations in order to avoid making glib use of these disturbances as a cause when some other factors are really at fault. Deliria due to infections like pneumonia, typhoid, etc., are very common, especially in children, and are really a problem of differential diagnosis in internal medicine. Deliria may, however, also be due to organic and psychogenic causes as will be seen from the following sample list: deliria due to traumatic causes; deliria in acute chorea; deliria due to cardio-vascular-renal disease, deliria in Korsakow's syndrome, deliria in senile dementia, deliria in hysterical states and schizophrenia, deliria in exhaustion states from whatever cause. Under C would be placed all psychoses in which constant organic and toxic factors have not been ascertained, as in the schizophrenic reaction types, manic-depressive reaction types and typically in the psychoneuroses.

There are a number of objections to this classification scheme. In the first place a toxic, and even occasionally an organic aspect, may be a striking part of the clinical picture of a so-called functional psychosis. A chronic toxic state may eventually simulate an organic state. Furthermore, in the present status of our knowledge the designation "functional" is not entirely justified since it is based on theory and not on fact. Finally, the student is not given any conception of the considerable number of psychoses which are certainly to be recognized as clinical entities in actual practice.

Complexity Is Objectionable. The classification of Emil Kraepelin, the "master mind" of objective psychiatry, has this fault. Every student of psychiatry is deeply in his debt for his remarkably accurate descriptions of patients and their symptoms, but unfortunately he had a passion for minute subdivision which makes his classification confusing. For instance, he has described no less than eleven varieties

of schizophrenia. The impression given is erroneous for after all what is needed is an understanding of the essentials of the disease process and not a detailed memory for numerous slight deviations from the usual types

We have found the following seven reaction types, revised from Adolf Meyer, the most useful for our daily work in the hospital. This is a genetic-dynamic classification taking into account the patient's underlying personality.

A. ORGANIC REACTION TYPE:

- 1 Meningo-encephalitic lues (general paresis).
- 2 Senile deterioration.
- 3 Cerebral arteriosclerosis
- 4 Traumatic psychoses.
- 5 Epilepsy.
- 6 Psychoses with neurological disorders.

B. DELIRIOUS REACTION TYPES (TOXIC PSYCHOSES):

1. Alcoholic psychosis
- 2 Psychosis due to drugs and other exogenous toxins.
- 3 Psychosis with somatic diseases.

C. PARANOID REACTION TYPES.

D. AFFECTIVE REACTION TYPES (MANIC-DEPRESSIVE OR REACTIVE):

- 1 Depression
2. Excitement.

E. SCHIZOPHRENIC REACTION TYPES (DEMENTIA PRECOX).

F. PRIMARY CONSTITUTIONAL REACTION TYPES:

- 1 Psychopathic inferior
- 2 Mental deficiency

G. PSYCHONEUROTIC REACTION TYPES (MINOR PSYCHOSES):

- 1 Hysteria.
- 2 Anxiety states
3. Obsessive-compulsive-ruminative-tension states

Classification Which Is in General Use. The following classification has defects, but it is recommended for the student on account of its practical features. It takes account of all the psychoses which are encountered; it is commonly employed by psychiatrists, and is in use in all mental hospitals. The important psychoses are in heavy face type and a brief clinical explanation is included. The explanatory material stresses differential diagnosis.

AMERICAN CLASSIFICATION OF MENTAL DISORDERS

I. PSYCHOSES DUE TO OR ASSOCIATED WITH INFECTION.

1. Psychoses with syphilitic meningo-encephalitis (general paresis).

Early in the disease occur dispositional and character changes, judgment defects, unreliability, moral laxity, extravagance, forgetfulness. Usually at the height of the disease, and invariably in the final stages, there is deep dementia. According to the delusional trend and the underlying personality trend, grandiose, depressed, manic, and dementing forms may be distinguished. The neurological signs (Argyll-Robertson pupil, exaggerated or absent knee jerks, tremors, speech and writing defect, convulsions, etc.) are diagnostic and the serological findings (blood and spinal fluid positive for Wassermann, pleocytosis, positive globulin reactions, "steppage" gold curve, etc.) conclusive.

2. Psychosis with meningo-vascular lues (cerebral syphilis).

Signs indicating cerebral syphilis rather than paresis are comparatively early onset after infection, sudden onset with confusion or delirium, focal signs, particularly nerve palsies,

apoplectiform seizures, very high spinal fluid cell count, positive blood Wassermann and negative spinal fluid Wassermann and the luetic type of gold curve, with often prompt response to systemic antisyphilitic treatment. Here are also included those cases of chronic syphilitic meningitis which may show mild or severe deterioration in emotional and intellectual reactions, but which usually show a clinical picture distinguishable from the parietic.

3. Psychosis with intracranial gumma.

The diagnostic problem is chiefly a neurological one. A positive Wassermann may occur in a patient with a brain tumor. Response to antisyphilitic treatment may help in diagnosis.

4. Other types (to be specified)

Include here the comparatively infrequent types not included in the above groups, including psychosis with tabes dorsalis and meningo-myelitis in the absence of associated paresis or cerebral syphilis

5. Psychoses with epidemic encephalitis.

Here are to be listed those mental disturbances associated with acute phases of epidemic encephalitis such as delirium or stupor, and those chronic cases with demonstrable residual defects of the intellectual processes and emotions, these defects show themselves in a diminution of voluntary attention, of spontaneous interest, and of initiative, memory impairment is often slight. Apathy, depression, euphoria, anxiety or emotional instability may be found from case to case. Behavior disorders with marked irritability and destructiveness are sometimes prominent

6. **Psychoses with tuberculous meningitis.**

Psychoses developing during the course of a demonstrated tuberculous meningitis are included here

7. **Psychoses with meningitis (unspecified).**

Include here those cases developing meningitis, the type of which cannot be specified

8. **Psychoses with acute chorea (Sydenham's).**

Distinguish Sydenham's chorea from psychogenic chorea by a history of repeated attacks of tonsillitis and acute rheumatic fever, and the presence of cardiac disease and fever

9. **Psychoses with other infectious diseases.**

The most common clinical picture met is that of delirium with or without motor excitement and hallucinations, with frequent shifts in the levels of consciousness; the attacks may be followed by amnesia for the period. The infectious psychoses are particularly apt to arise in association with influenza, pneumonia, typhoid fever and acute rheumatic fever. Care should be taken to distinguish between these infectious psychoses and other psychoses, particularly the affective and schizophrenic reactions, which may be made manifest by even a mild attack of infectious disease. Delirious reactions occurring in connection with child birth are not to be looked upon as infectious psychoses unless there is a clear-cut evidence of infection with toxemia, so that the infection appears to be the main etiological factor

10. **Post-infectious psychoses (infection to be specified).**

Mild confusion, depressive, irritable or suspicious reactions, slight mental enfeeblement,

and abnormal mental states arising as part of the asthenia or exhaustion following infectious disease are the principal signs of this group

II PSYCHOSES DUE TO INTOXICATION.

1. Psychosis due to alcohol.

The alcoholism should be established as the main etiological factor. Alcoholism may only be a symptom of some other psychosis, or may bring to notice an already existing psychosis

2. Pathological Intoxication.

These cases show sudden excitation or twilight states, often with a mistaking of the situation, illusions, hallucinations, and marked emotional reactions, particularly of anxiety or rage upon ingestion of large or small amount of alcohol. Rule out epileptic conditions, katatonic excitement, manic-depressive reactions, general paresis and arteriosclerotic episodes

3. Delirium tremens.

A delirium with tremor, toxic symptoms, and a prominent hallucinatory content, usually visual with distinct clouding of the sensorium. If recovery does not take place within two weeks this condition must be differentiated from Korsakow's psychosis

4. Korsakow's psychosis.

There are delirious and non-delirious types. The former is not unlike delirium tremens, although the symptoms are usually less severe, and the course is longer. In the latter there is retention defect, disorientation, fabrication and memory falsification, suggestibility, and a tendency to misidentification of persons. There may or may not be polyneuritis. The Kor-

sakow's syndrome may appear in other toxic conditions, e.g. toxemia of pregnancy, chronic drug ingestion, etc.

5. **Acute hallucinosis.**

Auditory hallucinosis with a clear sensorium, marked fears and more or less systematized persecutory trends. A schizophrenic reaction must be suspected if these cases do not clear up within a few weeks.

6. **Other types (to be specified).**

Chronic alcoholics showing deterioration of the moral and ethical senses, emotional blunting, organic memory defect, and paranoid trends may be placed in this group.

7. **Psychoses due to drugs or other exogenous toxins.**

(a) *Psychoses due to metals.*

Usually due to prolonged exposure to lead, arsenic and mercury, showing early toxic symptoms of the gastrointestinal system and peripheral nerves and later developing deliria with marked prostration from which they may recover or they may be left with intellectual or emotional defects apparently based on toxic encephalopathy. The clinical picture at times resembles the Korsakow mental state.

(b) *Psychoses due to gases.*

Carbon monoxide in illuminating gas and automobile exhaust is the principal toxic gas. The preliminary period of unconsciousness may be followed by a more or less protracted delirium after which the patient may be left with increased fatigability and difficulty in concentration. Chronic mental

et al. should not be confused with freedom from symptom.

(c) *Psychoses due to drugs and its derivative*

Mental deterioration with demonstrable memory defect, with defective judgment in the moral and social spheres are the outstanding features. Paranoid states may develop. Care should be taken to differentiate these cases in which an underlying personality defect is the actual cause of the morphinism.

(d) *Psychoses due to other drugs*

After brief or long continued use of cocaine, bromides, chloral, acetanilide, phenacetin, sulphonal, trional, and proprietary combinations, some individuals develop dullness and apathy, followed by toxic delirium with confusion, hallucinations of sight and hearing, flight of ideas, confabulation, misidentification, paraphasia and apprehensiveness. Underlying personality difficulties should be sought as the true basis for this psychosis.

III. PSYCHOSIS DUE TO TRAUMA (TRAUMATIC PSYCHOSES)

Psychotic symptoms due to head injury. Actual brain damage may or may not be demonstrable.

1. **Traumatic delirium.**

An acute or sometimes protracted delirium (often Korsakow like) caused by head trauma.

2. **Post-traumatic personality disorders (Traumatic constitution).**

Post traumatic personality disorders in which the patient suffers from headache, fatigues

easily, is irritable and emotionally unstable. There may be paranoid, hysteroid or epileptoid phenomena. Psychoneurosis must be ruled out by careful evaluation of the present reaction and previous personality type.

3 **Post-traumatic mental deterioration.**

Mental deterioration caused by head trauma. Aphasic symptoms and epileptiform attacks may appear.

4 **Other types (to be specified).**

Only occasionally will other types of traumatic reaction be found.

IV PSYCHOSES DUE TO DISTURBANCE OF CIRCULATION.

1 **Psychosis with cerebral embolism.**

Emboli from the pulmonary circulation from vegetations on the heart valves, or from thrombosis of the arteries of the head and neck may cause cerebral softening with neurological or psychotic symptoms.

2 **Psychoses with cerebral arteriosclerosis.**

Often difficult to differentiate from senile psychoses. The diagnosis is justified when mental deterioration coexists with evidence of general (headache, dizziness, fainting attacks, etc) and more particularly focal (aphasia, paralysis, etc.) brain damage. Peripheral blood pressure is not necessarily high.

3. **Psychoses with cardio-renal disease.**

Deliria or confusional states, often worse at night, usually seen in cases of decompensated cardiac disease, acute and chronic kidney disease including uremia. Fearful hallucinations sometimes occur.

AIDS IN THE STUDY OF THE PSYCHOSIS

4 Other types to be specified

Exclude psychoses due to physical factors due to circulatory disturbance not specified above which can be taken care of.

V PSYCHOSES DUE TO CONVULSIVE DISORDERS. EPILEPSY.

The diagnosis of epileptic psychosis must be established with careful consideration of convulsive manifestations superimposed on the psychosis.

1. Epileptic deterioration.

Grades of development of intellectual decline, loss of personality, deterioration of important functions, particularly as regards an epileptic are the basis of this type. Period of delusions and hallucinations may be present.

2. Epileptic clouded states.

Considerable clouding of consciousness before or after an attack, or at intervals, together with hallucinations, anxiety, excitement, hallucinations, delirium and violent emotional outbursts, moods with extreme excitation are characteristic features.

3 Other epileptic types

Include here other mixed types not mentioned above.

VI PSYCHOSES DUE TO DISTURBANCES OF METABOLISM, GROWTH, NUTRITION OR ENDOCRINE FUNCTION.

1 Senile Psychosis.

Develop gradually. Memory failure especially for recent event, defects of orientation, lowered mental capacity, defective attention

concentration and thinking. Self centering of interests, irritability and stubbornness, a tendency to reminisce and fabricate. Paranoid trends, depressions, confused states, etc. may all be noted.

(a) *Simple deterioration.*

Defective retention and memory, reduced intellectual capacity with narrowed interests. Often there is suspiciousness, irritability and restlessness, usually nocturnal.

(b) *Presbyophrenic type.*

Marked memory and retention defect with complete disorientation. The patient is mentally alert, attentive and able to grasp immediate impressions. Forgetfulness leads to absurd contradictions and repetitions. Prominent are suggestibility and fabrications. The general picture resembles the Korsakow mental complex.

(c) *Delirious and confused types.*

Acute illness may precipitate a deep confusion or delirium.

(d) *Depressed and agitated types.*

Mental deterioration plus pronounced depression and persistent agitation. Such patients are to be differentiated from cases of involution melancholia by the presence of fundamental defects of the memory and defects in grasp of recent occurrences.

(e) *Paranoid types*

Mental deterioration plus persecutory or expansive delusional trends.

2. **Alzheimer's disease (Pre-senile type).**

Profound dementia occurring as early as the fortieth year accompanied by aphasia, apraxia, and often an irritable or anxious depressive

mood. A condition of general atrophy with microcephaly and atrophy of the cerebral alterations is found.

3. Involutional Psychoses.

Here are included the psychoses of middle life and later years which have a prolonged course and are characteristically a syndrome consisting of worry, insomnia, fear, anxiety, agitation, idea of morbidity and somatic delusion.

(a) *Major type*

Depression, affective, organic intellectual defect with agitation, insomnia, mania, often with delusory trends. If there is evidence of previous attack of depression or excitement should be classed with manic depressive groups.

(b) *Paranoid type*

Transient or prolonged paranoid trends during the involutional period without any previous indication of paranoid reactions.

(c) *Other types to be specified*

Other type of psychotic reaction during involutional period and from which organic brain disease can be excluded.

4. Psychoses with diseases of the endocrine glands (to be specified).

Out-standing among the cases classified here are psychoses associated with disorders of the function of the thyroid gland, hallucinatory deliria of thyroid toxicosis and the apathy of myxoedema, the latter often accompanied by paranoid trend. Psychoses to be ascribed to diabetes, disorders of the pituitary, Addison's disease and multiglandular disorders should be classified under this heading.

5. **Exhaustion delirium.**

Include here only cases which do not have infectious disease or some other organic disease as a basis. Rule out manic-depressive and schizophrenic reactions of a delirious nature. True exhaustion delirium is rare.

6. **Psychoses with Pellagra.**

Principally delirious and confused states arising during the course of pellagra.

7. **Psychoses with some other somatic disease (to be specified).**

Include here cases not already specified, ruling out psychoses with infectious diseases and post-infectious psychoses.

VII **PSYCHOSES DUE TO NEW GROWTH.**1. **Psychoses with intracranial neoplasms.**

The mental symptoms are not clear cut. There may be dullness, somnolence, hebetude, slowness in thinking, memory failure, irritability, depression, confusion with hallucinosis, etc. Classify psychoses here whether brain tumor is primary or secondary.

2. **Psychoses with other neoplasms.**

Psychoses developing in connection with new growth elsewhere in the body, these growths being instrumental in bringing about psychotic reactions either by their general toxic effects or by their psychological effects on the patient.

VIII **PSYCHOSES DUE TO UNKNOWN OR HEREDITARY CAUSES, BUT ASSOCIATED WITH ORGANIC CHANGES.**

Include here psychoses essentially of the organic brain disease type: multiple sclerosis, paralysis.

agitans and Huntington's chorea, with defects in the intellectual functions and emotional deterioration, sometimes with accessory symptoms of hallucinations and delusions

IX. DISORDERS OF PSYCHOGENIC ORIGIN OR WITHOUT CLEARLY DEFINED TANGIBLE CAUSE OR STRUCTURAL CHANGE.

This heading is so worded to imply that the disorders classified under it may or may not be of psychogenic origin, but that there is no clearly defined tangible cause or structural change.

1. Psychoneuroses. (Neuroses.)

A. *Hysteria*

(a) *Anxiety hysteria.*

There is not complete agreement on what should be covered by this designation. Patients showing conversion phenomena (paralyses, anesthetics, functional loss of special senses, etc) with recurring attacks of anxiety are to be classified here

(b) *Conversion hysteria.*

The genesis and development of the signs and symptoms must be carefully studied to eliminate the possibility of an underlying psychosis. The hysterical symptoms are not in themselves diagnostic. Common symptoms are: anesthesia, paralysis, tics, tremors, spasms, postures, catalepsy, convulsions, stammering, stuttering, paresthesias, dyesthesias, hyperhidrosis, edema, ulceration, fugues, amnesia, delirium, hallucinations of hearing, dream states and stupor

B. *Psychasthenia or Compulsive states.*

Under this heading are to be classified those cases showing predominantly obsessions, compulsive tics, spasms, and phobias. Frequent symptoms are: *delire de toucher*, counting (steps, etc.), urge to say words, kleptomania, dipsomania, pyromania, *folie de doute*, occupation spasm or tic, habit spasm or tic, spasm nutans, claustrophobia, syphilophobia, agoraphobia, misophobia. Feelings of insufficiency, nervous tension, anxiety and marked depression and agitation often characterize this state.

C. *Neurasthenia.*

To be designated under this heading are those cases in which organic disease is ruled out and who complain of motor and mental fatigability, diminished power of concentration and pressure in the head, scalp, neck, or spine. Early schizophrenia, paresis or mild depressions of the manic-depressive reaction type not infrequently have to be considered in the differential diagnosis

D. *Hypochondriasis.*

Obsessive preoccupation with the state of their health or of various organs, with a variety of somatic complaints which are not relieved by demonstration of a lack of pathology characterizes these cases. To be differentiated from involutional melancholia by the absence of marked depression with agitation and self-condemnation. Hypochondriacal complaints may be a symptom of a schizophrenic process necessitating the

elimination of this reaction type before classifying cases here.

E. *Reactive depression.*

Here are to be classified those cases which show depression in reaction to obvious external causes which might naturally produce sadness, such as bereavement, sickness, and financial and other worries, but which is of more marked degree and longer duration than normal sadness. The deep depression, with motor and mental retardation shown in the manic-depressive reaction type are not present, but these reactions may be more closely related in fact to the manic-depressive reaction types than to the psychoneuroses. The presence of tension in depression suggests the manic-depressive reaction type.

F. *Anxiety state.*

Cases which show more or less continuous diffuse anxiety and apprehensive expectation, with paroxysmal exacerbations associated with physiological signs of fear, palpitation, dyspnoea, nausea, diarrhea, are to be classified here. Emotional tension is apt to be high, and irritability and intense self-preoccupation may be prominent, particularly during episodes. The diagnosis should not be made until all other more clearly defined types showing anxiety as a symptom have been excluded. Since this condition may closely simulate hyperthyroidism, the following suggestions for differentiation are included. In anxiety states the patient has restricted drive or energy, is usually fatigued, has

coarse tremors, cold, clammy skin, slight elevation of the B.M.R., pulse rate falls during sleep, and appetite is decreased. With hyperthyroidism patients fatigue easily, have much drive or energy, fine, rapid tremors, warm, moist skin, considerably elevated B.M.R., pulse rate remains the same during sleep, and appetite is increased with weight loss

2. Manic-Depressive Psychoses.

Here are included the benign affective psychoses, which are marked by emotional oscillations and a tendency to recur

- A. *Manic type with elevation of spirits (elation) or irritability, with overtalkativeness, flight of ideas, increased motor activity.*
- B. *Depressive type with outstanding depression of spirits and mental and motor retardation and inhibition*
- C. *Circular Type*—Cases which show a change without a free or recovered interval of one phase to the opposite.
- D. *Mixed Type*.—This term is reserved for cases that show a combination of the cardinal symptoms of manic and depressive states
- E. *Perplexed Type*—In this type of reaction perplexity is an outstanding symptom in a depressive setting. Not to be mistaken for schizophrenia because of occasional bizarre behavior.
- F. *Stuporous Type*—This reaction is characterized by a marked reduction in activity, at times leading to immobility. The mood is essentially one of depression, mutism may be present, and this with drooling and

muscular symptoms at times suggests the catatonic form of schizophrenia.

(7. *Other Types*.—Here are included types not described in the sub-groups given above.

3. Dementia Praecox (Schizophrenic Reaction Types).

This is undoubtedly the most difficult psychosis to comprehend. Unlike manic-depressive it has a much less distinctive counterpart or miniature in normal (average) behavior. To the observer it presents a grotesque, bizarre, inexplicable and unnatural appearance. The mental processes not only seem utterly different from anything observed in the mental life of the average individual, but, furthermore, are not even in keeping with each other, and, in fact, are constantly at cross purposes. They appear to function not only pathologically but also independently. Graphically the disease might be pictured in this manner (Fig 5) The following features are characteristic although, naturally, they do not occur in every case of dementia praecox

1. Seclusive make-up.
2. Defects of interest.
3. *Discrepancies between thought, behavior and emotional reaction.*
4. *Emotional blunting, indifference, silliness*
5. Defects of judgment.
6. Hypochondriacal notions
7. Suspiciousness and ideas of reference
8. Odd, impulsive, negativistic conduct, usually without relation to emotional disturbance and often with a clear sensorium.
9. Autistic thinking, dream-like ideas, feelings of being forced on or of interference with the

mund from the outside, physical and mythical influences, etc.

A *Simple Type*.—Cases to be classified under this heading show essentially defects of

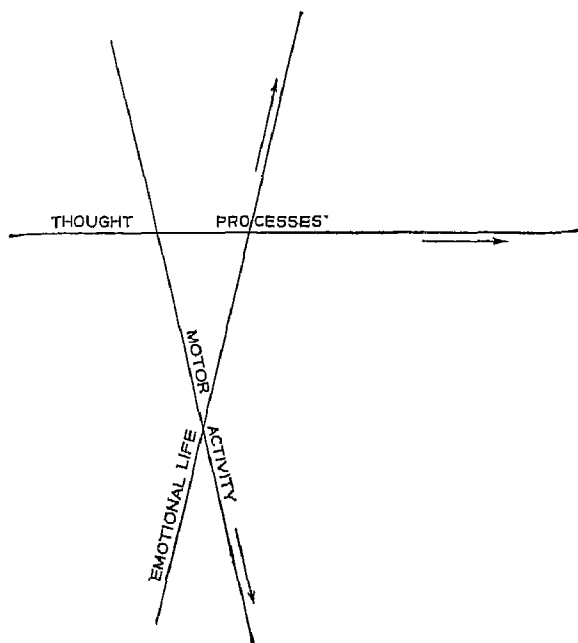


FIG. 5.—Illustrating incongruity of basic symptoms in dementia praecox

interest with gradual development of an apathetic state but without other strikingly peculiar behavior and without expression of delusions or hallucinations

B. *Hebephrenic Type*—Cases to be classified under this heading show prominently a tendency to silliness, smiling, laughter which appears inconsistent with the ideas expressed; peculiar, often bizarre, ideas are expressed,

neologisms or a coining of words or phrases not infrequently occur, and hallucinations which appear pleasing to these individuals may be prominent.

C. *Catatonic Type*. The cases show prominence of negativistic reactions or various peculiarities of conduct with phases of stupor or excitement, the latter characterized often by impulsive or stereotyped behavior and usually hallucinations.

D. *Paranoid Type*. These cases are characterized by prominence of delusions, particularly ideas of persecution or grandeur and frequently with a consistent emotional reaction of aggressiveness due to persecution. A predominantly homosexual component or fixation at this level of development appears prominently in this group of cases whereas the previous groups show evidence frequently of not having reached this level or of having regressed to more infantile levels of psychosexuality.

E. *Other Types*. Cases not described above are included here.

4. **Paranoia.**

True paranoia is rare. It is marked by a slowly developing and logical system of persecutory and sometimes grandiose delusions, accompanied by adequate emotional response and clear and coherent thought. Neither hallucinations nor deterioration occur in strict clinical paranoia. Intelligence which is often of a superior type is well preserved. In this group belong certain types of reformers, agitators, litigious persons and prophets.

A *Paranoid Conditions* These cases occupy a position midway between paranoia and paranoid dementia precox, manifesting neither the cold logic and complete systematization of the former nor the scattering, fragmentation, affective inadequacy and deterioration of the latter

5 **Psychoses with Psychopathic Personality.**

The basis of these mental disorders is so-called psychopathic inferiority, which, in itself, however, is not a psychosis. In a strict sense psychopathic personality is a constitutional reaction, a kind of feeble-mindedness other than intellectual in which there is commonly defective emotional control and a lack of inhibition in the volitional sphere. The record of the inferior is clearly written in his inadequate response to ordinary life situations. Many criminals, moral delinquents, tramps, sexual perverts, drug addicts, etc. belong in this category. The pathological personality may be the background for episodic psychotic attacks of irritability, excitement, depression, paranoid outbreaks, transient confused states, prison psychoses, etc.

6. **Psychoses with Mental Deficiency.**

A certain percentage of those who are actually feeble-minded, that is, idiots, imbeciles or morons may exhibit episodic excitements, irritability, depressions, paranoid trends and hallucinatory attacks, all definite enough to be classified as psychotic. They may also present frank manic-depressive or schizophrenic reactions.

X. UNDIAGNOSED PSYCHOSES.

To place a psychosis in the undiagnosed group, after careful study, is not necessarily a confession of lack of diagnostic acumen. In clinical psychiatry it sometimes happens that we are left with a peculiarly shaped peg on our hands, which will not fit into any of the recognized diagnostic holes. Rather than force the issue and mutilate our intellectual conception of a given case it is more scientific to consider the psychosis "undiagnosed," and await additional light and information from its further course

XI. WITHOUT PSYCHOSIS.

This heading, useful in psychiatric hospitals was created to include (1) disorders of personality due to epidemic encephalitis, mental deficiency, drug addiction, alcoholism, epilepsy, and (2) psychopathic personalities with pathological sexuality, emotionality, asocial or unmoral trends

XII. PRIMARY BEHAVIOR DISORDERS.

(1) Simple adult maladjustment, and (2) primary behavior disorders in children are included in this group. It is obvious that there may be some overlapping in any one case of the symptoms of the various sub-groups (habit disturbance, conduct disturbance, neurotic traits), but the cases should be classified according to the predominant behavior symptoms.

STATISTICS

It has been stated that 100,000 new patients are admitted annually to State and private mental hospitals. In order

Psychoses	Per Cent—1933
Traumatic	1 0
Senile.	8 6
With cerebral arteriosclerosis	16 8
General paralysis	9 3
With cerebral syphilis	1 0
With Huntington's chorea	0 2
With brain tumor	0 2
With other brain or nervous diseases,	1 5
Alcoholic	6 5
Due to drugs and other exogenous toxins	0 2
With pellagra	1
With other somatic diseases,	1 9
Manic-depressive	12 9
Involution melancholia	3 0
Dementia precoc	27 2
Paranoia or paranoid conditions	0 5
Epileptic psychoses	1 6
Psychoneuroses and neuroses	2 4
With psychopathic personality	2 1
With mental deficiency	2 1
Undiagnosed psychoses	0 9
Without psychosis	1 3
Total	100 0

¹Less than 0.05 per cent

that the magnitude of the problem may be realized it can be stated that there are 430,000 beds for nervous and mental diseases in the United States as compared to 376,000 beds in general hospitals. The table on page 70 will make clear the relative frequency of the chief forms of mental disease.

MECIDO-LEGAL CONSIDERATIONS

The legal dangers of psychiatry have been unduly magnified and need not terrify the student. A knowledge of the essentials of the laws of commitment will enable him to recognize and avoid legal entanglements and in the long run one is as apt to be sued for his management of diphtheria or a Colle's fracture as he is for a certificate of insanity. The method of commitment is a matter of individual state

legislation and it is always advisable to be thoroughly acquainted with the State Mental Code. Since the Pennsylvania Code may stand as a type of advanced legislation, brief synopses of the several commitment procedures are included.

Admission by Voluntary Application. When the patient is cooperative and intellectually competent enough to appreciate the nature of his act, admission by voluntary application is advisable. It is merely necessary for the patient to sign in the presence of witness an application for admission to a mental hospital.

Admission by Certificate of Two Physicians. This is the usual method. "Whenever it shall appear that any person is mentally ill, or in such condition as to be benefited by or need such care as is required by persons mentally ill, the superintendent of any hospital for mental diseases may receive and detain such person, on the written application of any relative or friend, or the legal guardian of such person or any other responsible citizen, and on the certificate of two qualified physicians that said person is mentally ill and is in need of treatment and care in a hospital for mental diseases.

The application aforesaid shall be in form, prescribed by the department, and shall state the name, sex, and residence of the patient, the opinion that said patient is mentally ill, and that care in such a hospital is necessary for his benefit, and the facts on which the said opinion is based, and such other facts or information as may be required by the department. If the facts called for, or any of them are unknown to the applicant or applicants, it shall be so stated in the application.

In the certificate, aforesaid, the physicians shall each state his residence, that he has resided in this State for at least three years, that he has been licensed to practice medicine in this State, that he has been in the actual practice

of medicine for at least three years; or has had at least one year's experience as physician in a hospital for mental patients, that he is not related by blood or marriage to the patient or to the applicant, or any of the applicants, that he is not connected in any way as medical attendant, or otherwise, with the hospital to which application has been made for the admission of the patient, that he has examined the patient with care and diligence within one week, and that in his opinion, the patient is mentally ill and in need of hospital care. He shall further state in said certificate the information, relative to the patient, given him by others, and the facts, as to the patient and mental condition and the behavior of the patient, which he has himself observed, on which he bases his opinion.

The aforesaid application and certificate shall be sworn to or affirmed before a judge or magistrate, and said judge or magistrate shall certify to the genuineness of the signature, and to the standing and good repute of the signers of the certificate. The commitment shall not authorize the admission of the patient unless the patient shall be admitted within two weeks of the date thereof."

Emergency Commitment. In an emergency, as for instance when the patient is violently or dangerously mentally ill, he may be detained by a hospital for a period not exceeding ten days, even if the certificate of physicians has not been sworn to or affirmed.

If the patient needs immediate care he may be placed in a mental hospital for a ten day period on the application of legal guardian, relative or friend, and the certificate of one licensed physician.

Subsequently he may be certified in the usual manner.

Court Commitment. In a few instances when the patient by the nature of his illness is apt to become litigious, it is advisable to accomplish commitment by application to the Court of Common Pleas or other Court of Record.

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CHAPTER III

METHODS OF PSYCHIATRIC EXAMINATION

The psychiatrist has no tricks, or reliable short cuts, and but few instruments of precision at his command. Perhaps this is the reason why psychiatry is such a fascinating subject. Master and student alike must utilize comprehensive and detailed history and conscientious examinations as a basis for sound and scientific opinion concerning diagnosis, prognostic possibilities and treatment.

From the very nature of the subject matter, the understanding of human behavior is a complicated and often a very laborious and painstaking business. There is among medical students generally, the unfounded feeling that some special sort of callousness to the privacy of human life, or some special ability to establish rapport is needed in order to deal adequately with psychiatric problems. This indicates a rather unsettled attitude of aversion mixed with fascination for the subject. The former perhaps arises out of the nature of the subject matter, which is often of an intimate sort, a certain sense of timidity at "intruding," and a hopeless attitude toward the material when once obtained. The latter arises from the conviction that in many cases the psychobiological factors probably are most significant, proving the practical utility of psychiatric interest and intelligence in the hands of some physicians to whom patients naturally turn with psychobiological troubles. There are many other factors operating to produce this unsettled attitude—for the most part arising out of the personality conflicts in the doubters themselves which cannot be discussed here.

It may be said in defense of the "intrusion" into privacy that such an approach becomes an intrusion only when the examiner has no clear notion of the data of the psychiatric examination nor of its purpose, and so betrays his own bewilderment and personal floundering. It is rare to encounter opposition in a patient when it is clear to him that our inquiry has a definite purpose, and our interest is a kindly one with the desire only to help. Anything smacking of the inquisitorial method, or of the morbidly curious, or of goalless blundering will be immediately appreciated by the patient and quite properly resented. On the other hand it is important that the examiner does not lose sight of the purpose of the examination to establish the character of the patient's behavior and realize clearly his obligation to cover the points necessary for such a determination. For example, it would be as negligent to fail to determine the *orientation* in a psychiatric case as it would to fail to auscultate the lungs in a tuberculous case.

It may also be safely said that in the rank and file of psychiatric problems, the special rapport some physicians seem to be able to establish rests upon the confidence inspired by the approach through ordinary human kindness and sympathetic understanding, the sensing of a purpose in the examination and the willingness on the part of the physician to spend whatever time and energy are necessary to do justice to the problem. So often the great task of the physician is to school himself to *listen* and *learn* and for some this is a harder task than to jump into overt therapeutic activity. In fact, often the therapy is automatically applied through the simple act of being patient with the sufferer. Special types of rapport, as in hypnosis and psychoanalysis, are never necessary in the preliminary contacts and so may be dismissed from further consideration at this point.

It is essential for the successful approach to psychiatric problems that (1) the examiner must have a clear idea of

the data necessary for the understanding of the case; (2) he must have a sense of continuity and purpose in the examination, (3) he must approach the patient in a genuine spirit of sympathetic understanding and helpfulness; and (4) he must be willing to spend whatever time and energy are necessary to achieve the establishment of that mutual rapport which will work toward a solution of the problem. It will be apparent that in general these are the considerations which apply in any medical approach.

Therefore, the same methods used in general medicine are employed for psychiatric investigation, namely (1) the indirect examination or historical data concerning the chronological evolution of the difficulty as focussed in the complaints concerning the past performance and the family tendencies. (2) The direct examination of the mental status, and the physical status, which gives a cross section of the present behavior. (3) The contributory information from special examinations, and the patient's course under observation and treatment.

THE INDIRECT EXAMINATION, OR HISTORY

The history is of the greatest importance in any psychiatric case because of the complexity of the material and the great difficulty in formulating it in terms of an "experiment of nature," doing justice to the complaint of the patient as well as the social implications of the material. In no other kind of medical history is there so apt to occur conflict between the historical evidence from the patient and that from others interested. For this reason it is important to get information from all legitimate sources and as unbiased objective information as possible. It is always advisable to take the history from each informant separately in order to bring out the discrepancies which in themselves may shed light on the personalities of the informants. For example, in examining a child, it is generally more fruitful to examine

the child and each parent separately. Mutual sensitiveness and timidity and need for shielding may thus be avoided. The data from each source should be kept separate and labelled properly with the name of the informant and the date the information was obtained.

The history is best taken in the following order:

1. *Complaint*
2. *Present Illness*
3. *Past History*
4. *Personality*
5. *Family History*

Complaint. This is the patient's *verbatim account* of his reasons for coming for consultation. This is compared with the *complaints* offered by those perhaps more directly responsible for the consultation, or otherwise interested, (father, husband, employer, etc.) The greatest divergences are here possible. For example, it is not uncommon to meet patients who are without any complaints whatever, but who are the source of great distress to the environment. This will illustrate the personal and the social implications of psychiatric problems, and not always do they coincide.

Present Illness. The complaint leads naturally to inquiry into the present illness. Under this heading we get as accurate an account as possible of the chronological sequence of events which finally brought the patient to medical consultation. When the material is very complex, and the interrelations not obvious, it is wise to make a special chart showing the temporal correlations. It is best to remain on a descriptive level, using the patient's own words for significant events. The condensation of the material into technical terms may appear in summary or as marginal annotations.

It is often difficult to date with accuracy the onset of the present illness, and the patient's statement may not

coincide with that given by others or with our own conclusions

Past History. We next attempt to obtain an objective record of those features in the patient's past life pertinent to an estimate of his previous and habitual life adjustments, his assets and his liabilities. The topics of interest are:

1. *Birth and Development* data, with special reference to childhood maladjustments: nail biting, thumb sucking, night terrors, fears of the dark, of storms, of animals, etc.; finickiness with food; the social adaptation with outgoing or seclusive tendencies in home, school, play, and the more asocial traits of lying, stealing, truancy, cruelty to other children or to animals, etc.

2. *Health Record*, with a careful survey of all the systems, including the patient's attitude to his health, and his estimate as to his habitual degree of health. Overconcern and overcompensation, overt or latent may be revealed.

3. *School Record*, including date of beginning and ending of schooling, number of grades taken, grades repeated, isolated failures, and degree of scholarship. Special school interests should be noted. In the case of children who come for school difficulty, a copy of the official school record and the teacher's estimate of the child are useful.

4. *Work Record*—Kind, specific jobs with chronological sequence, degree of skill in the craft or profession, salaries, reasons for leaving, attitude to responsibility at work, and satisfaction from it; the economic status—debts, responsibilities, habits of saving.

5. *Sex Development*—First awareness of sex, how, when, and with what preparedness and attitude, evolution of the sex interest, and specific data on the sex pace, as noted in overt sex activity (physiological data of erections, emissions, or menstruation), as well as the more mental factors of sex fancies and dreams and their effects, autoerotic, homosexual, and heterosexual features, attitude to family formation.

Marital data - date of marriage, marital adjustment with degree of satisfaction, special gratifications and disappointments and difficulties; pregnancies and their results; attitude to the specific sex factors and satisfactions therefrom, contraceptive methods, reasons for the methods used, safety co-efficient, fear of pregnancy, conflicts aroused by the practice

6 *Interests and Habits* The patient's assets in collateral interests as in religion, art, theatre, literature, sports, clubs, etc of an organized as well as the more spontaneous personal type, habits with specific inquiry into eating, sleeping, play, and alcohol, tobacco, drugs, coffee, tea, etc

This section is most important in view of the breakdown in patients of the appreciation and utilization of native or acquired assets through neglect, or lack of opportunity and other unwholesome rut formations. An important therapeutic hint is hidden in the careful check of the interests and habits

7. *Previous Attacks*. Of a like or unlike character with specific data as to time, duration, symptoms, course and outcome and where hospitalized

Personality. The patient's estimate of himself supplemented by the statements of others, and by the data of the past history with regard to the intelligence, native drives and special interests, the general output of energy with variations and their causes, the basic mood with fluctuations and their causal factors, the social adaptability with special reference to aggressive and submissive qualities, egocentric features, or syntropic tendencies, or special discrepancies and disharmonies. Note the personality development with special reference to the periods of adolescence, adult life and senescence, with special attention to the degree of balance.

Succinct illustrative episodes will often offer a helpful insight into habitual behavior patterns, and illuminate many obscure features in an illness

Family History. Besides the actual enumeration of the parents and siblings and children, inquire into the personalities for dominant traits, and the occurrence of more or less definite mental illnesses and of other chronic systemic disease for inherent biological patterns. This is a good place to gather the data of the family life, the interfamilial relationships with special allegiances, dislikes, frictions, etc.

Summary of the Indirect Examination. At this point it is well to put together those facts of the history which seem to have special significance in the evolution of the complaint for the diagnostic possibilities they suggest, and for the points provocative of further investigation

THE DIRECT EXAMINATION

The direct examination has for its purpose the determination of the present status of the patient—a cross-section view of his behavior in contrast to the longitudinal view of the indirect examination. It includes the *Mental Status* and the *Physical Status*. The mental status is best taken under the following headings

1. *General appearance and behavior*
2. *Stream of talk and activity*
3. *Mood*
4. *Content and special preoccupations.*
5. *Sensorium and intellectual resources.*
6. *Insight*

1. **General Appearance and Behavior.** The degree of ease, rapport, facial expression, mannerisms, condition of dress and toilet. etc

2. **Stream of Talk and Activity.** Specifically for, (A) underactivity with general slowing of motility, speech and thinking, for (B) overactivity with restlessness, agitation, or more purposeful expansive or playful motility, ease of

thinking and association, with distractability, and pressure of talk with play on words, rhyming, flight of ideas, or for (C) incongruous, distorted, bizarre activity, with queer mannerisms, grimacing, stereotyped movements or mutism, catalepsy, scattered, incoherent talk, "word salad," and queer condensations of words or parts of words or new word formation, with blocking of thought, poverty of thought, or with feelings of a multitude of random thoughts crowding in.

The examination should contain a verbatim and characteristic sample of the stream of talk, often best obtained by asking for the "complaint "

In some cases the activity may be greatly reduced, the patient presenting a stuporous appearance. Speech is then ordinarily much reduced, even to complete mutism. Examination should note. (1) the degree of alertness to environmental distractions, as by following the examiner with the eyes, even when gross bodily movements are absent; (2) the degree to which the patient responds to spoken commands, or exhibits negativism (active, by doing the opposite of what is requested, or passive, a more stubborn resistance to casual attempts—change of posture, etc.), (3) the presence of sustained queer postures, as holding the head off the pillow; (4) presence of drooling; (5) reaction to painful cutaneous and deep sensory stimulation, (6) spontaneous changes in the motility (especially during sleep), the speech, etc., (7) whether spoon feeding or tube feeding is necessary, (8) evidence of spontaneous or reactive emotional display with smiling, laughing, tears, playfulness, anxiety, etc., (9) catalepsy, or the holding of postures imposed on the patient, in marked cases the so-called waxy flexibility being present.

In other cases, the patient may present sleepiness (sopor), from which he may be easily, if transiently, aroused, or coma, from which he can not be aroused and with the physical signs indicating severe organic involvement.

3. **Mood.** The questions must be framed so as to elicit an unprejudiced answer concerning the mood or affect, how it affects the patient, its variations and the causes and controls. The mood may be rather diffuse, as blueness, sadness, melancholy, depression, or lonesomeness, or as elation, euphoria, expansiveness. The mood may be more topically conditioned as worry, anxiety, or fear, or as ecstasy. Again the variations and their cause and controls are important.

Begin with the most casual, naive questions and proceed to more pointed ones only when they clearly will not prejudice the answers. The following have been found useful:

"How are you?
How do you feel?
How are your spirits?
How is your mood?
Any initiative? Optimism?"

Then—

"How does it affect you?
What do you mean by 'blue,' or 'anxious,' etc ?
How do things (the world, life) look to you?
Any ups and downs? Under any special conditions, or at any times?
Do you feel better in the morning or evening?
How is this different from your usual feeling?
Does it ever drive you to despair?
Does life seem worth living?"

4. **Content and Special Preoccupations.** Here again the questions must be so framed as to elicit the spontaneous unprejudiced answer. This portion of the examination is very difficult since it is directly concerned with material about which the patient may be sensitive, at least sensitive to sharing in discussion. The completeness of this portion of the examination is in some cases a good measure of the degree of rapport between the patient and the examiner.

As noted under the previous section, the mood may be intimately linked with topical (content) considerations, as worry, anxiety, ecstasy, etc. The transition to this portion of the examination is made immediately by inquiring as to *why* the patient is worried, or anxious, or ecstatic, etc. One might naturally expect some relation between the content in such a case and the precipitating factors as determined in the history of the present illness. The greatest divergencies may be seen and should occasion no surprise. For example, a man who apparently becomes depressed by the loss of his savings in a bank failure, may offer worry over masturbation as the principal content.

In addition to the types of content associated with mood, the following are important and must be inquired into.

Obsessions and Compulsions.—Thoughts (also fears and doubts) which course through the mind and cannot be erased, which are usually recognized as absurd or relatively meaningless, or at least as parasitic on the personality, yet a part of the personality, and acts which are performed through some inner need, whose omission produces feelings of tension.

“Do you have any thoughts which you can’t get rid of?”

Do you find yourself thinking of things and can’t stop, or are you ever aware of thoughts, or words, or phrases, or tunes going round and round in your mind, and do you find yourself unable to control them?

Are you afraid of storms, heights, crowds, traffic, etc.?

Do you have difficulty in making decisions, finding yourself wavering constantly?

Do you feel compelled to do certain acts, or rituals?

Do you feel tense until they are done, even though you know them to be foolish, or unimportant? (e.g. hand washing over and over again, locking and relocking the door, certain rituals for dressing and undressing, feeling of need for the curtains to hang just so, or all on a level, etc.).

Are you able to stop these actions at will?”

The variations with causes are to be inquired for.

Familiarity (deja vu experiences) and *Unfamiliarity feelings* (depersonalization and unreality—benumbing)

"Have you ever been in a strange place or situation of any sort and suddenly had the feeling that you had been there before, or had experienced it all before?

Describe the experience "

The inverse situation and experience are also inquired into.

"Do these experiences occur in any special setting?

How long do they last?

Do things seem natural (real) to you?

How different?

Are you aware of any change in yourself?

How does it affect you?"

Ideas of Reference, Paranoid Ideas—Projections to the environment of internal insecurity or sensitiveness, or dominant motives, with feelings of being the object of environmental attention, especially of being the target of persecution or unfair dealing of some sort.

"Do you feel at ease?

How do people (the world) treat you?

Have you had a square deal from life?

Are you bothered by crowds?

Do people look at you on the street?

Have you ever felt singled out for special attention?

Do people like you?

Does anyone 'have it in' for you?

Has anyone a grudge against you?

Under what circumstances, or why and how does it affect you?"

Passivity Feelings.—Feelings of being under the control of an external force

"Do you ever feel that your thoughts or actions are under any outside force (influence) or control?

Do you ever feel hypnotized?

Do you ever feel made to do or think things against your will?

Are your thoughts ever suddenly taken away from you?

Can people read your mind?

Does the radio have any special influence over you?"

Inquire into the reverse phenomena—the feeling of being able to influence others, to read minds, etc.

Delusions (false beliefs) and *hallucinations* (imaginary sensory elaborations without external stimuli).

The former may appear in the detailed present illness, or in the mental status as ideas of reference and paranoid ideas. Grandiose ideas may be elicited.

Both delusions and hallucinations are inquired for as follows

"Have you had any unusual experiences lately (since you have been sick)?

Has anything out of the way happened to you?

Any peculiar experiences?

Any imaginations?

Any day dreams?"

More pointed questions with reference to hallucinations may be:

"Have you seen (heard, smelled, tasted, felt) anything unusual?

Do you ever hear your name called when no one is about?

Do you hear people talk about you (or when you are alone in your room)?

Do you ever get messages from heaven?

Have you been bothered by any unpleasant odors?

Have you felt the need for bathing frequently?

(Hallucinations body odor)"

Any affirmative answer is to be taken as a lead for the further description of exactly how the phenomena occur, what the exact content is, how it affects the patient, and means of control.

Dreams—Ask concerning the dreams, especially for troublesome, anxious dreams, frequently recurring dreams, and the patient's interpretations

Hypochondriacal Ideas —Ask for the presence of aches or pains, or unusual physical sensations. Questioning may reveal unusual physical concern, or excessive physical complaining, or bizarre, distorted somatic delusions.

5. Sensorium and Intellectual Resources. This portion of the examination is liable to provoke annoyance through the fact of being put to the test. It is useful in introducing the subject to preface with the question:

"Have you had any difficulty in thinking, concentration or memory?" This gives many patients a welcome opportunity to excuse errors in advance, at the same time orienting the examiner toward special difficulty. The data is taken in the following order:

Orientation—to time, place, person

"Have you kept track of the time?

What day (month, year, time of day) is it today?

You know where you are, don't you?

What sort of place is this?

What is this building?

What is your full name?

You know who I am, don't you?

What is my job? What do I do?"

Memory—Recent, intermediate, remote. Best checked by the dates of the history with reference to the facts and to consistency in the story. Recent memory may be checked with events of the past twenty-four hours, which of course must be corroborated from authentic outside sources.

Retention and Recall —The patient is given three objects to remember and is told that he is going to be asked to reproduce them within a specified time (3 minutes—5 minutes). The examination proceeds as usual and then the patient is asked for the three objects. This is a test of active retention. Also the patient may be led to mention three things in a casual conversation, and later asked to reproduce them. This tests the passive retention.

The retention of digits: For this purpose one may make up his own list, or use the numbers from the Stanford revision of the Binet-Simon test as follows:

Repeat Forward	Repeat Backward
31759 (year 7)	6528 (year 9)
521746 (year 10)	31879 (year 12)
9728475 (year 14)	471592 (year 16)
72534896 (year 18)	

It is always advisable to begin with an easy task so as to avoid the sensitiveness a failure might produce. Progress then to the next higher number. The digits are to be pronounced at about the rate of 1 per second, and care must be taken to avoid repetition of digits or their arrangement, or emphases and punctuations which would aid in the reproduction

The patient then is given a simple story to read and asked to reproduce immediately the substance of the story. The "Cowboy Story" is useful:

"A cowboy from Arizona went to San Francisco with his dog, which he left at a dealer's while he purchased a suit of new clothes. Dressed finely, he went to the dog, whistled to him, called him by name and patted him. But the dog would have nothing to do with him in his new hat and coat but gave a mournful howl. Coaxing was of no effect, so the cowboy went away and donned his old garments, where upon the dog immediately showed his wild joy on seeing his master as he thought he ought to be "

Calculation.—Without pencil and paper, unless the patient has too great difficulty, when the fact should be noted

Use simple calculations, or at least calculations within the range of the patient's educational advantages and life opportunities as determined by the history—addition, subtraction, division, and multiplication of increasing complexity.

Serial subtraction -100 minus 7 is a most useful test. It requires keeping in mind the goal, retention of the last figure, and brings out slowing, late errors (fatigue), blocking.

carelessness, or lack of appreciation of errors, tension, anxiety under load, etc. Ask the patient then to divide 100 by 7, and note if he gets the correct answer or the same fraction left over and if he notes any inconsistency.

General Information.—Events of the day—newspaper items, political, economic, artistic, etc. Facts of geography, history (local, national, and international) within the probable range of the patient's opportunities and interests. We do not test to see how much the patient knows, but if he knows as much as he reasonably should. The list of questions will be adapted to the patients, and of course the answers must be known beforehand to the examiner.

Judgment—Formally tested by discriminations as "What is the difference between a mistake and a lie (dwarf and child, tree and bush, etc.)" Also by reference to the absurdities in the Binet-Simon fables for years X and XIV, etc.

Ask concerning the plans for the future, which elicits a more spontaneous performance.

In many adults and in all children, more exact knowledge concerning the intellectual level is desirable. Recourse may be had to any one of several "intelligence tests" which have been standardized as to method of administration and scoring of the results. For ordinary psychiatric work, the Stanford revision of the Binet-Simon test, or the Army Alpha test will be found very useful and practicable. For the best results with these tests considerable skill in obtaining cooperation of the patient and in interpreting the behavior during the test is necessary. A quantitative estimation of the intelligence is to be considered as adequate only when given under the optimal conditions. Poor rapport, physical distress, fear, environmental distractions are common vitiating factors and should always be noted in the body of the test.

In children, the intelligence scoring may be compared with the scholastic record. Special difficulties in reading, writing, or calculation are frequently discovered in applying the tests.

For details of the tests, the reader is referred to Lewis M Terman—"The Measurement of Intelligence," Houghton, Mifflin Co., Boston, 1916, and to Robert Mearns Yerkes and Clarence S. Yoakum "Army Mental Tests,"—H. Holt & Co., N. Y. 1920.

6. **Insight.** Under this heading we get the verbatim statement of the patient's summing up or formulation to himself of his present situation. There are many instances when the physician's use of the word "sick," or "ill" will meet with an uncooperative attitude. The questioning had best proceed then from the most casual beginning:

"What do you think about all this you have told me?

How do you explain your present situation?

Is anything wrong with you?

What?

What do you think is the matter with you?

What would you say was the nature of your trouble?

When things do not go right with us, we naturally look about for explanations. Have you come to any conclusions concerning yourself —(this situation you find yourself in)?

Do you consider yourself as any different now from what you have always been?

How do you explain the interest (concern) of your family (friends) in wanting this examination made? (When the patient has denied anything being amiss)

Are you sick?"

Summary of the Direct Examination. At this point summarize briefly the facts which seem to be of significance in the direct examination for their natural hanging together, or for their inconsistency or incongruity. Compare these findings with the points of interest in the history for their similarities and incongruities, and the understanding gained in view of their developmental story in an experimental formulation of the material. Note what gaps are present, and keep these in mind for future investigation, through additions to the history or the mental status

PHYSICAL EXAMINATION

The Physical Status. The physical examination must be complete. Experience shows that special attention should be paid to body build (pyknic, athletic, asthenic, dysplastic types), evidence of endocrine dyscrasia, focal infections, the gastrointestinal functions, the genital development and workings, the neurological status, including the autonomic participations in emotional reactions, and the serological and blood chemistry studies.

The physical findings may appear purely incidental in the behavior pattern, or more closely integrated into that picture, or may be as yet largely a matter of research interest. Reference will be made later to the more common somatic findings in certain behavior patterns.

I. General Physical Examination. The following examination scheme may be employed as a guide. Naturally, there must also be frequent and careful observations of temperature, pulse, respiration, etc

P H

No

Name

FROM NURSE'S REPORT

weight on admission
height, standing, sitting
chest measure (below breasts in
women)
estimated normal weight
(Formula or Ins tables)

PHYSICAL EXAMINATION (*date and initials*)

P H
No Name

age—apparent—actual
weight—usual—best
musculature
fat, amount, distribution
general nutrition
body proportion, attitude
facial type, habitus
facial expression
conformity to sex
anthropological data)

skin
pallor
cyanosis
warmth
dry, oily
pigment (jaundice)
eruptions—scars—tumors
nails
hair, distribution, condition
edema

bones, joints, spine
deformity
static conditions
flatfoot

lymphatic glands, cervical,
submax, axillary, epitroch,
inguinal, other
salivary glands
thyroid (if abnormal, details)
mammar

P H
No Name

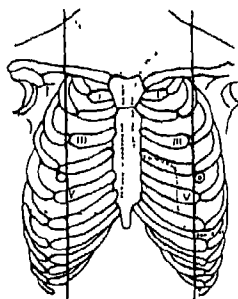
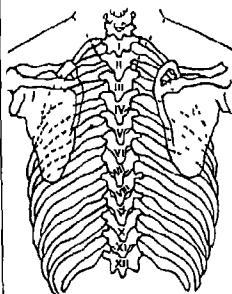
eyes, prominent, oblique, gross lesions, lachrymal, conjunctival corneal etc (reflexes see nerv exam) vision (estimated)
ears, deformities tophi, cerumen, discharges, mastoids, hearing (est) nasal passages, septum, turbinates, discharge, frontal tenderness, naso-pharynx, pharynx, tonsils
lips color, herpes, palate high etc gums pyorrhea, Vincent's, ulcers etc, tongue scars etc
teeth preservation, repair, crown & bridge, discoloration, caries, artificial

neck shape, pulsation, tracheal tug
thorax type & proportion, shoulder girdle, thoracic spine, epigastric angle, diaphragmatic movements

lungs type, frequency, rhythm of resp, pulm excursion MCL l, MScap l, eq of expans, & undul, at apices, fremitus (fr), rhonchi, resonance (r), hyper-resonance (hr), tympany (ty), dullness (shading), flatness (crosshatch), breath sounds, frictions, rales (according to Sahli-modif)

Above findings to be noted at apices ant & post, 4th intersp ant, in axillae, at bases post

graphic record by physician of pulmonary findings, front & back view, chart dullness breath sounds rales etc as above indicated



P H.

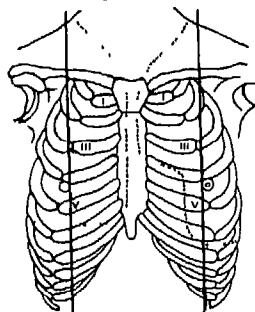
No Name
heart, location & chart, of apex
beat, visible & palpable pulsa-
tions at base, in neck, etc.
describe & chart cardiac area
record r & l base measurements
character of 1st & 2nd sounds
and of murmurs (if any) at
mitral, tricuspid, pulmonary &
aortic areas, transmission &
time relations of murmurs,
sounds in arteries, condition of
arteries, radial, brachial, tem-
poral. pulse rate & B P. effect
of exercise (chart), of emotion,
equality of pulses (radial) qual-
ity, volume, rhythm, condition
of veins: fullness, varices, etc.,
capillary circulation

chart effect of position & exer-
cise on B P & pulse rate exer-
cise (if up) stepping on and off a
chair ten times, (if abed) rising
from supine to sitting position
ten times.

cardiac findings

chart dullness, murmurs etc.

pulse	sit- ting	ly- ing	stand- ing	after exercise	2 min. later
blood pressure					
systolic					
diastolic					
pulse pressure					



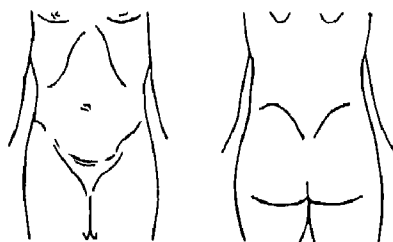
P H

No

Name

abdomen type & conformation
of pelvis & lumbosacral spine
symmetry & contour of abdomen,
visible peristalsis fatty deposit,
muscular development & defects,
hernias, rigidity, resistance,
relaxation, gurgling, palpable
kidneys, liver, spleen, other
organs or masses, tenderness
epigastric, over gall-bladder,
ureter, appendix, ovaries,
tympany, distension, signs of
fluid, fullness of bladder

chart of abdominal findings, also
sacroiliac tenderness, scoliosis,
etc



record at this point important
clinical symptoms elicited during
physical exam

if general physical exam shows
abnormalities in general bodily
development, in the skin or its
appendages, in type & distribution
of adipose tissue, etc or if
there are symptoms suggestive
of endocrine disturbance a complete
exam of endocrine system should
be made & entered on appropriate
sheet

Neurological Examination. The following short guide may be utilized. It must be understood that whenever a case has a neurological aspect the examination should be more extensive and special diagnostic procedures, such as the Barany test, ventriculogram, encephalography etc., may be needed.

P. H.

No.

Name

NEUROLOGICAL EXAMINATION

The following symbols should be used: R = right, L = left, n = normal, p = present, O = absent, + = increased, - = diminished, > = greater than, < = less than, = equal, FF = finger to finger, FN = finger to nose, tcl = transient clonus, pcl = permanent clonus, f = faradic, g = galvanic, CCC = cathodal closing contraction, ACC = anodal closing contraction, rd = reaction of degeneration.

the following should be determined whenever possible:
motor functions: right or left handed, paresis or palsy, attitude, gait, coordination, balancing, station, muscle-joint sense, vibratory sense, speech and writing, dysmetria, apraxia, involuntary movements, tremors, spasms, choreiform movements, athetosis, etc. associated movements, muscle strength, volume, contour, atrophy, hypertrophy, tonus, myodema, fibrillary twitchings, convulsions.

reflexes (always): jaw, biceps, triceps, radial, patellar, Achilles, conjunctival, corneal, pharyngeal, epigastric, abdominal, cremasteric, Babinski, Oppenheim.

nerve status: Trousseau, Chovstek, tenderness: supraorbital, ulnar, radial, sciatic.

P H

No

Name

cranial nerves designate each nerve and describe evidence of its normal or abnormal status

vaso-motor and trophic phenomena

organic reflexes and their control, bladder, rectum, sexual

cutaneous and deep sensibility, the extent of this examination depends upon the indications furnished by gross testing. In all cases symmetrical areas of face, chest, arms, abdomen, thighs and legs should be tested by point and head of pin and by wisp of cotton, include stereognosis and deep pressure and if advisable localization and discrimination of touch

if a detailed examination of tactile, pain and temperature sensation is indicated use charts of N Y Neurological Institute and symbols as there recorded, otherwise may use rubber stamps

the following need only be determined when definite indications exist aphasia, past pointing, electrical reactions, visual fields (*perimeter*), *fundus oculi* changes, hearing, and vestibular tests, color vision examinations

always record the subjective complaints and note anything of unusual interest discovered in the neurological examination

Vegetative Nervous System. Sympathetic. skin is warm and dry, pupils dilated and there is tachycardia in states of overactivity. If the injection of 1 c.c. of 1-1,000 solution of adrenalin produces "glycosuria in excess of 5 grams when the quantity of urine is doubled and the pulse has a rhythm $\frac{1}{3}$ above normal" an increased irritability of the sympathetic system is indicated. Cervical sympathetic note the syndrome of drooping of the lid, small pupil, which does not dilate when shaded but contracts to light, enophthalmus, narrowing of fissure, loss of cilio-spinal reflex, and failure of pupils to dilate under cocaine as indicative of paralysis. Autonomic: skin cool and moist, small pupils, slow heart, gastric hyperacidity and sluggish bowels indicate overactivity. It is said that if 1 c.c. of a one per cent solution of pilocarpine nitrate is injected, and salivation and sweating occurs, an increased irritability of the autonomic system is revealed. Likewise 1 c.c. of 1-1,000 solution of atropine sulphate is a similar indicator if "rapid and prolonged dilatation of the pupils with considerable increase of the pulse rate" results.

Examination of Endocrine Organs. Endocrinology scarcely belongs to elementary psychiatry, even though in given cases it may be invaluable for diagnosis and treatment. A satisfactory examination should include general development, weight, body contour, head, type of face, eyes, glabella, nose and ears, jaws, palate, teeth, neck, spine, thorax, abdomen, pelvis, extremities, muscular development, skin, nails, hair, cardio-vascular system, lymphatic system, sexual organs, subjective sensations, drug reactions, laboratory and x-ray, family endocrinopathies and developmental history.

To be kept in mind are the more or less classical syndromes of hyperthyroidism, Grave's disease, hypothyroidism and myxedema, pituitary dysfunction, acromegaly, and Froeh-

lich's syndrome and the less clearly defined testicular, ovarian and status lymphaticus types.

Laboratory Examinations. It is important that the physical examination be reinforced by careful laboratory studies.

1. Urinalysis.
2. Blood count, including differential and haemoglobin
3. Blood Wassermann.
4. Spinal fluid examination including Wassermann, cell count, gold curve—total protein and pressure determination
5. Feces.
6. Renal function
7. Gastro-intestinal function.
8. X-ray, particularly teeth and gastro-intestinal tract, and other systems when indicated
9. Blood chemistry
10. Sugar tolerance
11. Blood sugar.
12. Bromide determination
13. Basal metabolism.

Contributory Examinations. This leads directly into highly technical fields, for the most part still problems in research, but often with great practicability. Special mention should be made of the skin resistance, the blood-cerebrospinal fluid barrier index, the Buscaino reaction, the Jung free association test, the Luria motor association test, the Rorschach test, dream analysis, productions under hypnosis, etc

In our work the association motor technique, the Rorschach test and intravenous amytal interviews have proven of particular value. The motor association test and apparatus is described in detail in the section on psychoneuroses. The technique for amytal interviews is too well known to warrant detailed discussion at this time. In brief the technique consists of the slow administration of amytal or

some similar preparation by vein to a point of lethargy and "grogginess." During the period of induction a pattern of conversation along neutral lines of interest should be maintained. When the speech becomes thick and the patient develops slips of the tongue and momentary lapses, probings into the conflict material and amnesic or wilfully withheld material may be started. During this phase much can be accomplished by the use of direct and positive suggestion. Caution is necessary to avoid over-dosage with a resultant sleep and inability to respond to questions.

The Rorschach test is one of the most valuable contributory examinations. It gives information concerning the patient's basic personality configuration, his capacity for control, and offers a quick yet surprisingly accurate means of determining what the patient has to react with in terms of instinctual drives, affective control, type and quality of intellect, intellectual capacity, manner of approach to problems and the nature and quality of his conflict material. In skilled hands it enables one to predict with some certainty what the individual's behavior would be in a given situation. In clinical practice it is of definite value in the differential diagnosis of difficult cases although this is the least valuable of its many uses. The technique of administration is simple but the interpretation rather complex. Those interested are referred to the excellent works of Rorschach, Klopfer, Beck and the members of the Rorschach Institute. Special training in the use of this method may be obtained in certain teaching centers in this country. Such training is necessary for successful utilization of the test.

The contributory examinations provide for special examinations, including eye, ear, throat, nose, sinuses, dental, skin, genito-urinary, and gynecological, as indicated. There should be no hesitancy in calling for adequate consultation with all of the other fields of medicine.

SUMMARY

There should be a complete summary made of the indirect, direct and contributory examinations. These summaries constitute an abstract along with detailed progress notes describing the course in the hospital. This complete abstract should close with a formulation.

Muncie's outline of the formulation is as follows:

1. The essential descriptive character of the leading and incidental lines of behavior as reactions to life situations.
2. The degree of involvement (and the degree of preservation of normal functioning)
3. The etiological factors: those more and those less directly concerned, the more and the less obvious to the patient and to the physician
4. The immediate therapeutic need and the opportunities for management
5. The gaps in the understanding, and treatment possibilities which must await further information

An example of a typical preliminary formulation of a case is as follows:

FORMULATION TO CLINIC

F S

The patient is a 33 year old housewife. The complaints are nervousness, apprehension, crying, and suicidal brooding. The background reveals a child suffering from enuresis, nail biting, fears, and oversensitiveness, who carried her neuropathic traits into her adult life. There is associated life long feelings of inadequacy caused by feelings of marked inferiority to an older and precocious sister, and an unhappy foster home. The onset of the present illness was in 1929, the early symptoms being worry and weeping over financial losses with gradually increasing tension through the years. The outstanding findings on admission were self depreciation, fear of being alone, worry over finances, suicidal brooding, tension over her sexual life, ideas of reference, loss of 20 lbs in weight, sleep disturbance, loss of appetite and constipation. The laboratory findings were of no consequence.

There have been 2 previous attacks, one in 1922 and one in 1923, during a long period of marital infelicity which terminated in a divorce. Each attack was precipitated by an abdominal operation. There have been 2 more operations during the present marriage, a laparotomy in 1928 and a tonsillectomy in 1929, both because of abdominal complaints and a severe dysmenorrhea.

The psychogenic factors are: a person of inadequate personality who contracted an unhappy marriage. She formulated her difficulties in physical terms, and as a result became the victim of injudicious surgery which in turn precipitated an agitated depressive state. This formed a reaction pattern which has been followed with almost photographic accuracy on the 2 subsequent occasions when life situations have become intolerable. The present illness was precipitated by severe tension due to poor sexual adjustment.

The case as outlined presents the picture of a recurrent depression.

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CHAPTER IV

THE ORGANIC REACTION TYPES

Organic deficits may be acquired through focal or diffuse brain destruction, associated etiologically with syphilis, arteriosclerosis, neoplasm, trauma, chronic alcohol poisoning, dementias of senility and certain epilepsies, occasional organic residuals of meningitis, eclampsia and encephalitis. The usual history of these cases reveals gradual decline in curve of business efficiency; change in personality (irritable, explosive, vulgar, erotic, extravagant, grandiose); gross evidence of defective judgment, planning, memory deficit, headache, vertigo, convulsive episodes, unsteady gait, or paralytic disturbances. The mental status most commonly presents dullness in grasp and response, periods of confusion, bewilderment and fumbling; easy emotional instability with tantrums of combativeness; tendency to disorientation, defective responses to tests of remote and recent memory, retention and calculation. Neurological findings vary widely with evidences of disturbance in reflex, motor and sensory functioning and coordination difficulties of station, gait, speech and writing. Special laboratory procedures further speak for the organic origin of the difficulty in terms of lumbar puncture findings, air injection, eye ground and visual field studies.

Not all the organic psychotic reactions can be covered in this chapter. The chief organic psychoses are paresis, senile and arteriosclerotic dementias and epilepsy. Together they constitute at least thirty per cent of all mental diseases. They are of the utmost importance to the practitioner,

since failure to recognize them in their early stages has very serious consequences, not only for the patient but also for his family and business associates

The organic psychoses or reactions are distributed under the following heads

1	General Paresis	10	6%
2	Senile Psychoses	12	1%
3	Psychoses with Cerebral Arteriosclerosis	2	1%
4	Epileptic Psychoses	2	7%
5	Psychoses with Huntington's Chorea, Brain Tumor, and other Brain and Nervous Diseases	1	2%
6	Traumatic Psychoses		.3%
7	Encephalitis	no statistics at present	

Organic reactions show certain symptoms and signs characteristic of the group. The occurrence of the following constellation of data should always suggest an organic psychosis to the examiner

- A History of previously good social adjustment with gradual change in personality, reduction of mental capacity, development of judgment and moral defects, and habit deterioration
- B Physical, neurologic, encephalographic, or spinal serologic findings indicating pathology of the brain
- C Mental status showing
 - 1 General reduction in mental capacity as shown by defects in memory, retention, orientation, grasp of general information and defects in judgment
 - 2 Emotional instability characterized by rapid shifts in mood, outbursts of irritability, and weeping or elation with slight provocation
 - 3 Behavior change seen in deteriorating of personal habits, moral offenses, quarreling and poor direction of energies.
 - 4 Exaggeration of previous personality pattern For example, aggressive person becoming overactive,

quarrelsome and irritable, while the seclusive, suspicious individual becomes paranoid

- 5 Decreased tolerance to toxic influences. Patients becoming confused and delirious on small doses of alcohol or sedative drugs

In order to illustrate typical findings in the mental, physical, and neurological examinations we shall present case histories and elaborate the main problems of diagnosis and treatment in each group. Since the organic reactions have a definite pathology, we purpose to give in full the neurological and frequently the neuropathological aspects of representative cases of this group

NEUROSYPHILIS

Syphilitic infection of the central nervous system is one of the most frequent causes of organic psychosis. Of all luetic patients untreated or treated by methods other than the modern intensive plan, about 25% will develop clinical evidence of neurosyphilis, of these about 5% Paresis, 5% Tabes, 15% Diffuse Meningovascular Neurosyphilis. More recent methods of intensive therapy will undoubtedly lower this incidence, but the use of modern methods is too recent to make figures available.

The discussion of neurosyphilis will be based on Moore's clinical classification which is summarized as follows

I Meningeal Neurosyphilis, early (2 yr.) acute meningitis, early asymptomatic neurosyphilis and neurorecurrences

II. Vascular Neurosyphilis, usually late but may be early, means widespread or localized cerebral endarteritis without meningeal or parenchymatous involvement, often associated with cardiovascular lues. Causes vascular accidents, hemiplegias, subarachnoid hemorrhages, etc.

III Diffuse Meningovascular Neurosyphilis, mixed, may have some parenchymatous change brain gumma, epilepsy, later asymptomatic neurosyphilis, etc

IV. Parenchymatous Neurosyphilis tabes, paresis, primary optic atrophy

I MENINGEAL NEUROSYPHILIS

Acute meningitis may occur at any time in a syphilitic person but it most often appears within two years of the primary lesion

The principal symptoms are headache, vertigo, nausea, lethargy, and visual disturbance. Neurologic findings show stiff neck, positive Kernig and Brudzinski signs, low grade fever, and increased spinal fluid pressure. The spinal fluid is turbid, free from bacteria and pellicle formation but containing several hundred cells per cmm., predominantly lymphocytes. Blood and spinal fluid Wassermann reactions are usually positive. The subacute and chronic forms carry more localized neurologic findings, usually of the convexity or basilar type.

The following case history is typical of this disorder

P. F. a 35 year old auto salesman entered the hospital in a lethargic state, complaining of headache, photophobia, and blurring of vision. When aroused he was irritable and complained of all attempts to move him. History revealed a penile chancre 8 months prior to admission. He had received weekly injections of neoarsphenamine and bismuth since the development of the primary infection. Headaches began two months prior to admission and persisted daily. The other symptoms complained of developed in the 48 hours prior to admission. Examination revealed a stiff neck, hyperactive tendon reflexes, positive Babinski reflexes, positive Kernig sign, turbid spinal fluid containing 950 lymphocytes per cu. mm., positive blood and spinal fluid Wasserman reactions and a 54332211 gold curve. Temperature 101° F (R) upon admission. Treatment consisted of combined fever and chemotherapy. The symptoms subsided rapidly during the first week of treatment and patient was discharged to clinic to continue his treatment.

II. VASCULAR NEUROSYPHILIS

Vascular involvement usually develops 6-10 years after the primary lesion although many early cases have been observed. The symptoms are headache of a diffuse, severe type, attacks of vertigo, transient attacks (1-5 days) of weakness of an extremity or facial muscles, slowly (5-24 hours) developing hemiplegia from which the patient may recover spontaneously in a period of a few days to a few weeks. In many persons the paralysis is incomplete and may be unevenly distributed in the involved areas. Many patients are irritable, confused, show defects in memory and judgment, and are often uncooperative and unkempt.

Neurologic findings vary with the area involved and are those of muscular weakness or paralysis, incoordination, and in many instances convulsive phenomena are observed. The diagnosis is based on the above findings, the course of the disorder, a luetic history, and a failure to find other causes of the disturbance. The spinal and blood Wassermann may be positive, but are not necessary to establish the diagnosis. Most cases show a moderate increase in lymphocytes in the spinal fluid and a moderate elevation in spinal fluid proteins.

The following case is illustrative of this form of neurosyphilis.

M. F. a 36 year old divorced waitress developed a severe pain in her head while working. The following morning she had a right hemiplegia and the family physician made a diagnosis of hysteria. Upon admission she was alert and cooperative but had a mild motor aphasia, there was weakness of the right facial muscles and a complete paralysis of the right arm and right leg. Deep reflexes were all hyperactive in the right extremities. Blood Wassermann negative, Eagle Flocculation positive, spinal fluid Wassermann positive, gold curve paretic in type, spinal cell count 48 lymphocytes, and total protein 45.

Patient was placed on chemotherapy for 6 months and then given fever therapy followed by further intensive chemo-

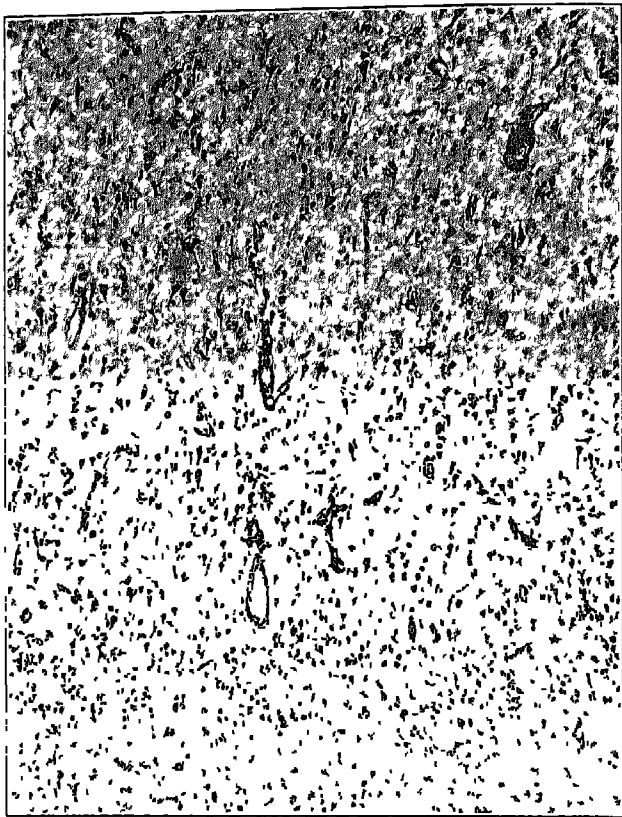


FIG 6—Paretic brain cortex. Note disarrangement of cyto-architecture, loss of ganglion cells, increase in glia nuclei and perivascular infiltration.

therapy. The symptoms have been relieved by treatment but the serology remains positive.

III. DIFFUSE MENINGOVASCULAR NEUROSYPHILIS

The symptoms of this form of neurosyphilis resemble those given under II but in general are more severe. The signs of

mental deterioration are more marked and convulsive phenomena are common. Some cases show evidence of cerebral gumma although in our experience such findings are rare.

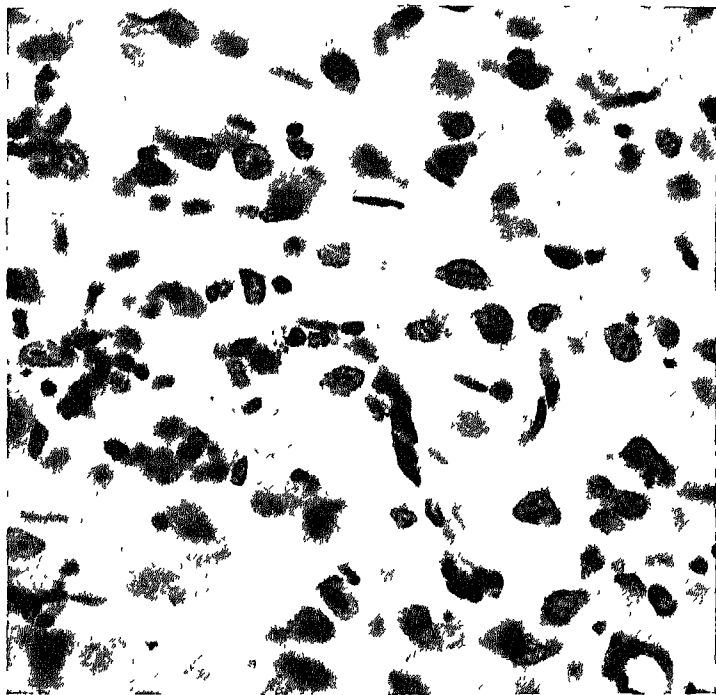


FIG 7 —Photomicrograph, General Paresis, showing rod cells

The following case is typical for this type of syphilis of the nervous system

H N, a 33 year old white female was brought to the hospital by her husband who complained, "She swears and is vulgar. There is a marked change in her personal appearance and manner the last five months. I don't think she knows what she is doing. Her left arm seems paralyzed."

The patient had no difficulty as far as the informant (her husband), was able to state until five months prior to

hospitalization. At that time he separated from her because of marked irritability. She returned to him two weeks prior to admission, was untidy, profane, was careless in exposing



FIG 8 —Normal brain cortex (compare with Fig 6)

herself, was emotionally unstable and told of having lived with another man. Three days before coming to the clinic she lost the use of her left arm and was removed to the County Hospital where a "mental" component was recognized culminating in her transfer to the Psychopathic Hospital.

The patient was a product of a broken home. She had had frequent colds in early childhood. She had a ninth grade education and had been employed as a waitress, factory girl and prostitute. She had been married twice, borne one child by her first husband from whom she acquired syphilis, had numerous miscarriages and used large quantities of alcohol. The family history was not obtained.

Upon admission the patient was pleasant and cooperative but one hour later had a convulsive seizure in which the eyes were drawn to the left, left leg extended, the right arm and leg flexed. There was profuse sweating on the right side of the body. Following the seizure there was a flaccid paralysis of the left arm and leg with diminished reflexes and positive Babinski on the same side. Deep tendon reflexes on the right were exaggerated and there was evidence of left facial paralysis.

Following the seizure she was untidy, exposed herself, was incontinent and helpless. She was confused, frequently contradicted herself but often her speech was coherent and relevant despite the rather marked speech defect. The affect might be described as "irritable and demanding." There was no special preoccupation and neither hallucinations or delusions were elicited. She was disoriented for time and recent memory was patchy while remote memory remained fairly well intact. She retained six digits forward but could not reverse four. Calculation was very poor. General information was fair but both judgment, and insight were lacking.

Positive physical findings were retroverted uterus, left-sided hemiplegia, paralysis of face below the eyes with drooling of saliva, absent abdominal reflexes on left, positive Babinski and Oppenheim on the left, otherwise, remaining deep tendon reflexes equal and hyperactive.

Significant in laboratory findings were a negative blood Wassermann, but a positive Eagle flocculation, a four plus

spinal fluid Wassermann with a protein of 55, sugar of 101 and gold curve of 555554210

The patient was inoculated with malaria after a careful pre-malarial work up and had a satisfactory course of nine chills and elevations. During the course of malaria the hemiplegia cleared. She was given weekly injections of tryparsamide and thiobismol following malaria and was discharged two weeks after termination. At that time the sensorium was quite without defects, there was some emotional instability and slight judgment impairment. She has returned weekly to the out-patient paretic clinic where she received follow-up treatment of neo, tryparsamide or bismuth salicylate. To date her adjustment is satisfactory and her recent spinal fluid showed a gold curve 5555442100, protein of 35 and sugar 56. The spinal fluid Wassermann was 0-1 and the blood Wassermann and Eagle both negative.

Discussion.—Here the initial difficulty is purely vascular in its expression and characterized by a convulsive seizure and hemiplegia. The mental status examination, however, after her admission to the hospital revealed this process to be more widely spreading. It might be pointed out with interest that the affect is best described as "irritable and demanding." This finding is the rule for early affective change in this particular organic reaction type. The diagnosis of meningo-vascular lues was further made secure by the laboratory findings.

IV. PARENCHYMATOUS NEUROSYPHILIS

This group includes tabes dorsalis, primary optic atrophy, and general paresis. It is not within the field of this book to discuss the first two forms, but considerable space will be devoted to general paresis in that it accounts for at least 10% of all mental disorders.

Definition.—Paresis is an organic brain disease, always due to syphilis and marked by serological findings which are

almost absolute in diagnostic value, by neurological signs which are quite reliable and by mental findings which are more or less characteristic

Etiology Psychiatry speaks with complete authority concerning the etiology of paresis. Beyond all peradventure of doubt it is solely due to the invasion of the brain by the treponema pallidum. One cannot speak with equal certainty concerning the factors which must be added to syphilis in order to produce paresis. A special strain of the organism has been held responsible but many authorities believe that exogenous stress, such as alcohol, head trauma, and the artificial by-products of civilization, especially in papulous centres are the precipitating factors. The fact that paresis is more common in males and reaches its peak in the fourth and fifth decades is entirely incidental to the frequency of lues in early adult life. Paresis usually develops ten to twenty years after the initial infection. Juvenile paresis appears before the twentieth year.

Pathology of General Paresis (Neuropathology--N. W. Winkelman)

The macroscopic findings depend on the duration and intensity of the disease. There is no one finding that is pathognomonic of paresis although a combination of certain changes are suggestive. It is not usual to find in an autopsy immediately after death, adherence of the membranes to the brain although the dura is at times adherent to the skull and infrequently internal hemorrhagic pachymeningitis is found. The pia arachnoid is thickened and gives the impression of frosted glass, which is usually more marked or even sharply limited to the frontoparietal region. The sulci are deepened and filled with a turbid fluid. The brain is small; the convolutions are shrunken and this too is more marked anteriorly. At the base there is some thickening in the interpeduncular space, but no actual exudate.

On cross section there is noted edema, the ventricles are dilated and a granular ependymitis is seen, especially marked in the fourth ventricle

Microscopically the pia-arachnoid is seen to be infiltrated with round cells, mainly plasma cells and lymphocytes, especially marked in the sulci. The cortex shows alteration in the cyto-architecture—the ganglion cells have dropped out, the glia cells are increased and irregularly placed with the presence of rod cells. The vessels stand out prominently because of endothelial proliferation and “collaring” with plasma cells and lymphocytes and in the adventitia new vessel formation can usually be made out. The ganglion cells that remain show chronic degenerative changes of various types. Atrophy of the cortical fibers is noted in Weigert myelin sheath stains

All these changes are present to a greater degree anteriorly than posteriorly—the pathology varying in different parts of the same area.

Symptoms and Diagnosis—If the physician has clearly in mind the relative value of the signs and symptoms, the diagnosis of paresis is not difficult. In the large majority of instances the serological examination alone is conclusive. The blood and spinal fluid are strongly positive for Wassermann in all antigens, and there is a pleocytosis (lymphocytic), positive globulin and a “steppage” gold curve. The neurological findings are scarcely less characteristic: The pupils are unequal, irregular or Argyll-Robertson, the tendon reflexes, especially the patellar, are exaggerated, there are tremors about the mouth, the naso-labial folds, the hands, tongue and indeed the entire body, the speech is slurring and stumbling, there are apoplectic or epileptic convulsive seizures. Less important but nevertheless striking are the following: Loss of facial expression, transient eye-muscle pareses, tremulous handwriting, positive Romberg and a shuffling, slouchy gait, inability to perform finer movements,

absent knee-kicks, especially in tabo-paresis, vasomotor disturbances, flushing, cyanosis, fainting, brief aphasias, bed-sores, failing nutrition, etc. All the physical and neurological signs increase in intensity and in the final stages, the bed-ridden patient is emaciated, absolutely helpless and paralytic

Since the mental findings in well developed paresis are not at all distinctive, the changes which occur in the early stages are particularly important. Bunker in a careful analysis of 74 male paretics found that irritability was the earliest mental phenomena. Next in frequency rank bradyphrenia, (slowness), change of character and disposition, loss of weight, forgetfulness, hypersomnia, speech defect, insomnia,

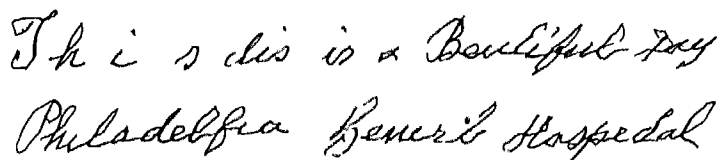


FIG. 9—Paretic handwriting. Note misspelling, breaks in connection, tremor and omissions.

judgment defect, fatiguability, digestive disturbance, impairment of vision, headache, rheumatoid pains.

In well developed cases certain forms may be made out, but in themselves they are scarcely ever sufficient to identify the disease. The expansive type is marked by extravagant grandiose ideas, euphoria, periods of irritability, combativeness and motor activity. It constitutes ten to twenty-five per cent of all cases. The depressed form makes up about twenty-five per cent and is to be recognized by despondency and depressive somatic delusions with a horrible content. The agitated form (ten to fifteen per cent) is attended with tense psychomotor activity and especially clouding of consciousness. The demented form constituting forty per cent is to be recognized chiefly by the rapidly increasing deterioration of all the faculties of the mind. A surer mark of paresis

irrespective of the particular type is the dementia, the loss of ethical, moral, emotional and intellectual life which robs the patient of every faculty which distinguishes man from an animal.

For convenience and for the purpose of a ten year follow-up study we have classified our cases of paresis as follows

Group A The deteriorated group, in which destruction of the central nervous system had proceeded to an advanced degree, with little possibility of retarding the disease process. These patients presented definite findings of mental deterioration on examination.

Group B An organic reaction with psychosis of a functional coloring. Clinically this group included psychoses similar to the functional disturbances seen in manic excitements, with depressions and other reaction types in addition to the organic symptoms present in general paresis.

Group C Cases without the signs of deterioration of general paresis in which mental symptoms were frequently transitory and exhibited before any signs of deterioration occurred. This group included delirious reactions and neurological irritative phenomena, as seen in convulsive seizures, aphasic attacks and combinations of meningo-vascular upsets. Group C was conspicuously small in this series. Nearly all of these cases on complete study fell in the cerebral syphilis group.

We have been interested in the encephalographic findings in general paresis and believe that the results therefrom give us factual information as to the degree and distribution of cortical atrophy as well as the size and shape of the ventricles.

Through encephalography a complete visualization of the spinal fluid pathways is obtained. In the study of 75 cases of general paresis there appeared to be a correlation between the encephalograms and the clinical grouping described above. In group A cases extensive atrophy was found in the frontal and parietal areas, absence of the normal

cortical pathways and marked hydrocephalus varying with the formation of compensatory pathways

This absence of subarachnoid air markings has been termed arachnoiditis. In group B, these changes appear less marked. In group C, there is a preservation of normal cortical pathways and a less marked atrophy.

Inasmuch as organic changes in the brain may be demonstrated by encephalography, this procedure has become an important method of psychiatric diagnosis. The possibilities of error in encephalographic technique, however, have not been sufficiently recognized and may lead to errors in the interpretation of the films. For example, the failure of the ventricles to contain air does not necessarily indicate pathology. This occurred normally in sixty-four (8 per cent) of eight hundred encephalograms performed at the Colorado Psychopathic Hospital. Another possible error is that of confusing air in the subdural space with cortical atrophy. Air entered the subdural instead of the subarachnoid space in one-hundred and sixty (20 per cent) of the above mentioned eight-hundred encephalograms.

Subdural air may be due simply to a tear in the arachnoid membrane or it may be associated with an underlying cortical atrophy. Pendergrass has shown that air may filter through the arachnoid membrane into the subdural space, and for this reason films should be taken within an hour of the injection of air. Subdural air is diagnosed by (1) subtentorial air, (2) collapsed ventricles, and (3) the absence of convolutional markings in the presence of a collection of air over the vertex.

The following case reports are typical of the various forms of general paresis.

CASE I Advanced Case Paresis. *R. T. was referred to our Paretic clinic from the General Hospital out-patient department where he first presented himself 4/19/26 complaining of "blurred vision."*

The patient stated that he first noticed a disturbance of vision in 1919 which was treated locally and with refraction which seemed to improve the subjective difficulty, at least temporarily. However, his old trouble returned in 1923,



FIG 10A

but again was temporarily improved by refraction. A recurrence however in 1926 which failed to improve with a third refraction brought him to the General Hospital.

Examination at that time verified physically and serologically that the patient had general paresis with optic atrophy. Malaria was advised but all treatment refused.

The only contact we maintained with the patient over a seven year period was through social service follow-up which revealed him to be deteriorating and which finally led to re-hospitalization October 31, 1933. At that time he was completely blind, had multiple gastro-intestinal complaints, stated he could play the violin, sing, yodel, when actually he

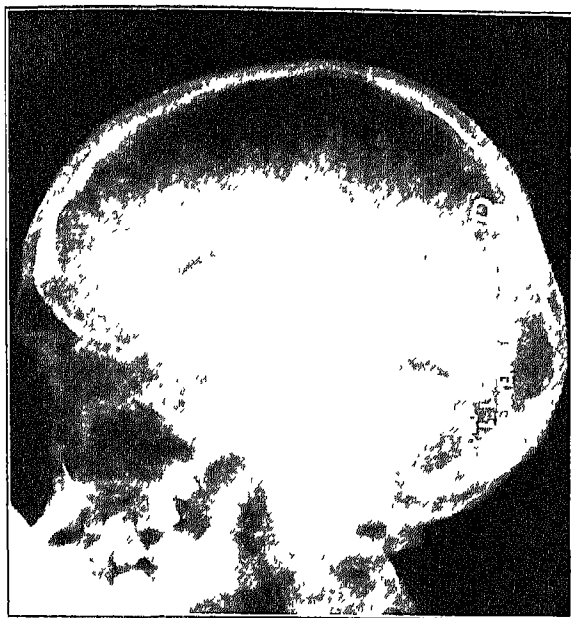


FIG 10B

FIG 10B —Encephalogram showing subdural aneurysm. Diagnosis—epilepsy. 150 c. c. fluid removed. (A) frontal view (B) lateral view. Subsequent encephalograms showed normal ventricles and subarachnoid pathways.

had no talent along these lines. He wandered away from home and got lost, could neither dress nor undress himself, had a marked memory loss, cried frequently, was very irritable, muttered to himself and was hypersomnolent.

The developmental history revealed a normal birth, attainment of a sixth grade education, appendectomy at age twenty-two and pneumonia at twenty. The patient

was a laborer with careless social habits of drinking and sex, prior to his marriage. The marriage was said to have been compatible. There were three living children and two miscarriages.

The family history was not contributory.

Upon admission the patient was seen to be untidy and ill-kept. He was poorly cooperative, walked aimlessly



FIG 11A

about singing and talking to himself. His personal needs had to be cared for and he was obviously blind.

Spontaneous talk was somewhat limited. Questions were answered coherently and relevantly, but when asked something he did not know he replied, "Wait and ask my wife when she comes. You ask too many questions."

Emotionally he was moderately euphoric and at times inimitable; "I am never discouraged I always feel fine"

He was definitely expansive, said he was the best worker in the world and that he could play a violin and yodel better

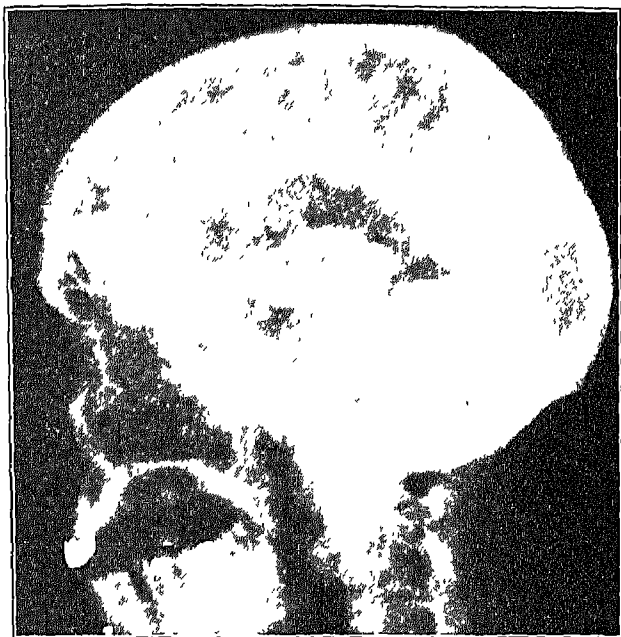


FIG. 11B

FIG. 11B — Encephalogram showing cortical atrophy in a case of paresis 175 cc fluid removed (A) frontal view (B) lateral view

than anyone in the world. Hallucinations, delusions of reference and passivity were not elicited.

The patient was disoriented for time and place, showed marked defect in past and recent memory, was unable to do the simplest calculation, recalled three digits forward but reversed none, was unable to retain any of the test phrases and displayed very poor grasp of general information.

Judgment and insight were wholly lacking, while he showed marked difficulty on the test phrases for speech.

He appeared to be well-developed and nourished but walked on a very wide base. The teeth were carious, and the lungs showed scattered sibilant and musical rales. There were numerous old penile scars. The pupils were unequal, irregular, the right fixed to light and the left sluggish. Bilaterally there was a marked optic atrophy. Muscular coordination was exceedingly poor, the Romberg was positive and both patellar and achilles reflexes were absent.

Both blood and spinal fluid Wassermann were 4 plus with a protein of 90 and a gold curve of 555554300 in the spinal fluid.

The patient was inoculated with malaria and chills precipitated with aolin and sulphur diaspoidal. After 7 chills and 4 elevations without chills there was no alteration in the clinical picture up to the time of his commission and transfer to State Hospital. One month later he died after a period of seven months illness.

DISCUSSION

It is interesting that the first symptom of C N S involvement in this case was referable to the visual apparatus. As has been so frequently reported in literature there were remissions of the visual difficulty from time to time. Had this patient accepted malarial therapy in 1926 he no doubt might have avoided the deterioration which followed progressively from that period until his death in 1935.

CASE 2. Tabo-Paresis. *L. B. H., a 46 year old male, entered the clinic in 1927 complaining, "I have difficulty walking in the dark; if I don't hang on to something I fall. My memory is not so dependable as formerly."*

The onset occurred three years earlier when the patient first noticed slight difficulty in walking. Since then this difficulty has increased and his vision has become more faulty. There has been a change in manner of speech. He has

frequent headaches and pain in his legs which are described as "shooting" Recently he has been forgetful of names and faces There has been 36 pounds in weight lost over three years time and he is constipated

The developmental background is that of an individual whose early childhood failed to reveal facts bearing upon the present illness He had a 2 year high school education, and denied all illnesses other than a chancre in 1910 His work was confined to "show and brokerage" business

His social habits were lax—he drank considerably and was promiscuous in intercourse The personality make-up was jovial, happy-go-lucky, carefree Never worrisome

Both the parents of the patient were living—there were no siblings and the family history was negative

Upon admission the patient spent most of his time in bed because of the marked ataxia. He was tidy and cooperated well with hospital personnel. There was a definite over-productivity of talk with distractibility accompanying the mild euphoria His remarks were, however, coherent and relevant.

Examination of the content of consciousness failed to reveal evidence of hallucinations, ideas of passivity or influence, or delusions of any sort

He was adequately oriented and both recent and remote memory were intact He retained 7 digits forward, reversed 5 and recalled the test phrase after 5 minutes General information was satisfactory Judgment and insight were preserved The speech of the patient was undisturbed, but the writing showed tremors

Physically the following findings were noted The pupils were fixed to light with bilateral optic atrophy There were beginning cataracts on both eyes There was marked oral sepsis and cervical, inguinal and epitrochlear glands were markedly palpable. All deep tendon reflexes were absent as were the abdominal and cremasterics There was disturbed

position sense of the lower extremities and a generalized hypoaesthesia. The Romberg was positive

Laboratory investigation revealed a four plus blood Wassermann, a spinal fluid with 5 cells, a protein of 10, a four plus Wassermann and colloidal gold curve of 2345544210

The patient was inoculated with malaria and had six chills with elevation of 103.8 (R) to 106° (R). After the course of malaria he was discharged to continue antiluetic treatment weekly in the out-patient paetic clinic. He was carried successfully, continuing his work all the while, until 1931. At that time he was readmitted to the house for observation following a period of confusion. The mental status and physical pictures at this time were essentially unchanged over the former admission. The blood Wassermann at that time was negative, the spinal fluid showed a protein of 20, a negative Wassermann and colloidal gold curve of 0001110000. Malaria was not deemed necessary and he was returned to the out-patient department for continued treatment.

DISCUSSION

In this case the patient's complaint itself is almost indicative of the diagnosis. The posterior column involvement of tabes is revealed in his statement "I have difficulty in walking in the dark," while the parenchymatous invasion is revealed by a complaint referable to his memory. A development and elaboration of the complaint further makes for this diagnosis, which is substantiated by physical and laboratory findings.

Early Paresis. Patient admitted to clinic 6/25/33, his family complaining that—"He seemed perfectly well until this past week. He seems to have lapses of memory, for he will be talking and then forget what he was talking about. He is weak and tired all the time and has not been sleeping well."

One week prior to admission the patient joined his family and friends in a group picnic, conducting himself quite normally. However, the following day he seemed at times "out of his head," was confused, talked irrationally and remarked himself about his thinking difficulty. His decreased efficiency made him irritable. Attempts to continue in his business produced difficulty because of his unreliable memory. He focused more and more upon his financial pressures and became depressed and brooding. His sleep was broken and despite a good appetite he began losing weight.

Development is essentially that of a man with no neuro-pathic traits, the usual childhood diseases without complication except for a mastoidectomy at 14, a high school education augmented by a course in a business college, a satisfactory work record with his most recent vocation as insurance salesman for a period of three successful years. His recent pursuits were chiefly of the group variety in keeping with his outgoing, sociable, generous make-up. He has been married 14 years, his wife denied miscarriage or abortion and he had two healthy children, ages 5 and 12 respectively.

Family history contributed no evidence of associated psychopathology.

Upon admission the patient presented a picture of bewilderment and sadness. He could not understand the reason for his hospitalization, despite repeated formulations. He was neat, tidy, friendly and cooperative. His content chiefly centered about his economic difficulties.

The talk was coherent and relevant, slightly retarded but otherwise displayed no evidence of disturbance.

The mood display was one chiefly of depression, however without the usual biological components of affective change. There was some sleep disturbance. At times some emotional lability was noted and the patient wept without sufficient provocation.

Special preoccupation and distortion of content in terms of hallucinations, delusions, illusions, ideas of reference, passivity feelings or paranoid trends were absent.

He was oriented for place and person but not for time.

Memory for past events was retained, subjectively, recent memory was impaired, however, examination did not disclose a deficit. He retained four digits forward but was able to reverse only 3. The test phrase was recalled after five minutes. Calculation was well performed and grasp of general information was fair.

He read slowly and had difficulty in retaining the point of long passages.

Judgment was preserved but insight was lacking.

Writing showed fine tremors and speech was slightly, dysarthric.

Positive physical findings were evidence of loss of weight, kyphosis and scoliosis with poorly developed muscle groups about the left shoulder girdle, penile scar, irregular and sluggish pupils, tremors of tongue and fingers and hyperactive patellar reflexes.

Laboratory findings of significance were—negative blood Wassermann, but spinal fluid cell count of 22, 4 plus spinal fluid Wassermann, protein 90 and a colloidal gold curve of 555555420.

The patient was inoculated with malaria and ran a satisfactory course, having 13 chills and 2 elevations without chills. Throughout his treatment he was cooperative and pleasant. His confusion changed and his physical condition remained satisfactory with a gain of four pounds in weight despite the fever therapy. At the time of discharge he said, "My brain seems clearer. I can remember things. My spirits are much better."

DISCUSSION

An early case of paresis has been presented chiefly from the viewpoint of effect of treatment. There is much evi-

dence that this patient is rehabilitated, in that he is working regularly and supporting his family. These patients should be closely supervised and under all circumstances report regularly to the Out-Patient Clinic for examination. Tryparsamide therapy at the present time is of great interest and many psychiatrists agree that it offers more than any other drug that has been used in the treatment of paresis. It is used because of its penetrability of nervous tissue and its ability to re-enforce natural processes of resistance. It has a low spirocheticidal action which may be increased by its marked penetrability. The results of many observers are very encouraging.

Juvenile paresis occurs in patients suffering from congenital neurosyphilis. It usually appears between the 6th and 20th years. The first signs are slow mental deterioration, apathy, slowing of thinking processes and irritability. Speech disturbance and generalized tremors are common. Many cases have a concomitant optic nerve atrophy and widely dilated pupils that are fixed to light.

Convulsive phenomena and spasticity of the extremities occur in certain cases.

Treatment is unsatisfactory, in most cases merely prolonging the course and progress to dementia and death in spite of energetic fever and chemotherapy is the usual outcome.

TREATMENT OF NEUROSYPHILIS

Treatment is of course an individual matter but certain general rules can be laid down. An accurate diagnosis should be made, the question of complications—especially cardiovascular syphilis must be settled, the factors of age, general health and other problems must be considered. Often treatment must proceed by a trial and error method.

Early Meningeal Neurosyphilis. Use old Arsphenamine with caution and K I. in large doses. If patient is quite ill, use daily intravenous mercury succinonide 0.01 gm. Continue treatment with heavy doses of arsenicals and with

bismuth Tryparsamide is usually indicated and fever may be used later. Since the ultimate outlook is poor if treatment is inadequate, the patient must be persuaded to remain under treatment until blood and spinal fluid have remained negative for a full year, or failing this for an arbitrary minimum of $2\frac{1}{2}$ -3 years.

Vascular Neurosyphilis. There must be caution in the treatment because of the often associated cardiovascular syphilis. We must also attempt to diagnose the presence of parenchymatous change, arteriosclerosis, etc. Treatment is usually begun with a course of heavy metal and K I—used for 10-12 weeks, when the arsphenamines can be started in small doses (e.g. Neo. 0.1 gm.). Should be continued for minimum of two years regardless of serologic progress.

Late Diffuse Meningovascular Neurosyphilis. Usually use the intensified routine (heavy doses of arsenicals—preferably Silver As or old Arsphenamine) with K.I. and metal. Moore recommends deferring malaria until the end of a year's trial with drugs.

Tabes Dorsalis. Some cases (10%) of "tabes show little change in neurologic findings (Burnt Out Tabes) and few or no spinal fluid abnormalities and can do without any treatment." In the rest, use an intensified routine for six months, then add tryparsamide. Use fever therapy whenever there is no serologic benefit whether or not the patient improves clinically. Total duration of treatment should be $2\frac{1}{2}$ -3 years. If patient is elderly or his physical condition is poor, use brief rest periods between treatments.

Paresis. "Standard treatment with the arsphenamines and heavy metals is of little or no avail and should not be used even as a temporary measure. Fever therapy should be employed as soon as the diagnosis is made, or if this is impossible, tryparsamide, the only chemotherapeutic agent of demonstrated value, should be given until

arrangements for fever can be made." Chemotherapy following malaria is necessary to increase the chance of complete remission, to guard against relapse and to prevent further progress of the syphilitic process elsewhere in the body.

Malaria should be followed by a short course of neoarsphenamine partly for the antisyphilitic effect and to supplement the action of quinine on malaria, but more largely because of its general tonic effect on the patient. Neo 0.3-0.6 gm. 5-7 day intervals. Next institute tryparsamide in courses of 12-16 weekly injections 30 gm alternating with courses of 8-12 injections of bismuth salicylate 0.2 gm. *This treatment is given without rest intervals.* These should be continued for an absolute minimum of 2½-3 years dating from completion of the malaria. If the patient has shown no improvement at the end of six months of this treatment, serious consideration is given to the question of desirability of further treatment as not worth while.

The malarial treatment was first proposed by Wagner Jauregg in 1887, although he did not begin clinical work until 1917. The idea of non-specific treatment in clinical psychiatry is not new. Hippocrates, Galen, Sydenham and others noted that diseases such as ague (malaria), typhus, typhoid fever, cholera, variola, erysipelas, scarlatina and chronic suppurations favorably influenced the course of the psychosis. Wagner Jauregg in 1890 used tuberculin in the treatment of general paresis and reported more frequent remissions and longer life than in untreated cases. In fact, in 1909 he stated that improvement could be obtained in about 50% of the cases, especially in early paretics and later (1920) reported that many were still alive and able to work. Wagner Jauregg found the following treatments for paretics to be efficient according to the order in which they are enumerated.

1. Inoculation with general infectious diseases: Relapsing fever, malaria.

2. Products of bacteria Tuberculin, Besiedka's typhoid vaccine, staphylococcal vaccine

3 Injection of substances not bacterial Milk, egg-albumen, peptone, sodium nucleinate.

In the summer of 1917 Wagner Jauregg inoculated 9 cases of general paresis with tertian malaria. One patient died during the fever period, two were reported as unchanged; three had incomplete remission, three had remissions all of which were completed and have persisted up to the time of the last publication eight and one half years later. Other cases were treated by Wagner Jauregg in the winter of 1918 with like results. Following these reports from the Vienna Clinic similar treatment was taken up in Hamburg, and since this time, especially in the last eight years, reports of uniform good results have been received from England, Denmark, Sweden and South America, etc. In 1924 the first report was made in the United States by Lewis from St. Elizabeth's Hospital. Later Kirby and Bunker made reports with favorable conclusions; likewise reports from the Mayo Clinic, the Boston Psychopathic Hospital and the Colorado Psychopathic Hospital, and other institutions were published. The treatment of paresis with tertian malaria is probably at its height in American clinics where most observers share the enthusiasm of the European clinics and feel that this type of therapy is superior to the older methods.

PROCEDURE OF MALARIAL TREATMENT

Although paresis is, par excellence, the indication for malaria therapy, other types of neurosyphilis and especially those cases of tabes and cerebral syphilis which are refractory to chemotherapy are treated with good effect by this method.

Contra-indications—It is generally useless, however, to attempt malaria therapy in rapidly progressive so-called "galloping" paresis, and in tabes with severe ataxia of long

duration. These cases not only do not respond but are apparently aggravated. The method is also disappointing in juvenile general paresis.

In the presence of severe cachexia or of profound systemic disease such as diabetes, nephritis, hepatitis, or tuberculosis it is generally wise to withhold malaria unless the condition can be successfully moderated. However, in the tuberculous malaria may be successfully employed if the disease is quiescent, even though it be of an advanced type.

Cardiac and aortic disease is perhaps the major problem of malaria therapy. Where there are signs of heart failure present or history of recent attacks of decompensation, malaria must be withheld. There are, however, a far greater number of cases showing evidence of myocardial and aortic disease without decompensation which, though malaria may be successfully administered, must always constitute a group of poor risks. Special methods and moderations of the usual technique must be employed if such cases are to weather successfully the strain of malaria therapy. In general, there must be within the patient latent powers of regeneration if there is to be a response to malaria therapy, and any accompanying systemic disease which tends to deprive the body of these potentialities, must be considered a contraindication until it can be removed or successfully moderated.

Pre-malarial Care.—The main objective of the pre-malarial period is the placing of the patient in a favorable physical state. Cachectic and anemic patients are given a course of chemotherapy, usually tryparsamide, prior to inoculation. This, together with rest and a high calorie diet serves to improve many otherwise unfavorable risks.

A complete physical examination with routine microscopic and chemical examination of the blood and urine and radiographic examination of the heart and lungs is considered essential. Complicating disease is thereby uncovered and eliminated in so far as this is possible. Existing infections

such as those of the teeth, sinuses, and skin must be properly cared for

The blood is typed and the patient's reaction to quinine is tested. The latter may be readily accomplished by the intracutaneous injection of 0.1 c.c. of a 1% solution of urea quinine hydrochloride. A marked urticarial wheal occurring at the site of injection is typical of quinine sensitivity. Neoarsphenamine may be used for terminating the malaria when this condition is found to be present.

The Malarial Period—A course of eight paroxysms is considered sufficient. Formerly it was customary to allow as many as twelve chills but it has been found that excellent results may be obtained by the shorter course and, as Wagner-Jauregg has pointed out, a long severe course is apt to defeat the aims of treatment by so debilitating the patient that his recuperative powers are irreparably damaged. It is true, in fact, that many cases will respond with even fewer chills (3 or 4) and there should be no hesitancy about termination after a few chills if the patient is in danger. If, in such a case, it is thought that better results can be obtained by a longer course it is better to divide the treatment into two stages, re-inoculating a few months later, than to needlessly endanger the life of the patient by prolonging the initial course of the malaria. In most cases it is desirable to obtain 50 hours of fever in excess of 104° F.

Tertian malaria (*plasmodium vivax*) should be used whenever possible since it is the most benign form. Quartan malaria has been successfully employed in communities where large numbers of the populace are immune to the tertian forms.

Where malarial patients are available as in clinics with established therapeutic strains the inoculation is effected by transmission from donor to recipient of 2 to 3 c.c. of citrated malarial whole blood. Inoculation is best effected subcutaneously since this method tends to favor the production

of the tertian pattern. The use of malarial blood which agglutinates the red cells of the recipient also aids in the production of the tertian form. This is especially important in the poorer risks in whom a quotidian or daily chill pattern is to be avoided if possible.

The incubation period varies from 3 to 21 days and tends to be much shorter in cases where the physical state is poor. Provocative measures such as warm baths, injection of adienalin chloride or of T. A. B. vaccine may be used to bring on paroxysms when their appearance is delayed. The average patient may be ambulatory and allowed a general diet during the pre-paroxysmal stage.

With the onset of fever the patient is made bedfast. The temperature and pulse are charted every hour so long as the temperature remains above 101°F and every three hours during the intervals. The blood pressure is recorded daily during an afebrile period. Complete blood counts and urine examinations are made every other day; blood chemistry determinations once or twice a week according to indications.

Alkaline drinks are forced and a light nutritious diet is provided. Every effort is made to keep the patient under cover and free from drafts. Since many patients are incontinent, special attention must be given to elimination. Enemata are preferred to cathartics. Isolation is advisable in localities where the anopheles mosquitoes are prevalent although it is questionable whether any danger exists when therapeutic strains of long standing are in use since the sexual forms of the parasite tend to be eliminated by continued artificial passage from patient to patient.

Termination is usually effected by the oral administration of quinine bisulphate, grains 10, t. i. d. and is continued until the blood has been free from plasmodia at least 14 days. For termination in emergency 2 c c of 1% solution of quinine and urea hydrochloride are given intravenously.

Although malaria therapy may be employed with impunity in the majority of patients it is not without danger to debilitated individuals and those with cardiac or aortic disease. Aortitis may be clinically demonstrated in 35% or more of the cases presented for malaria therapy. Nevertheless, these cases may be successfully treated if close supervision is maintained and one is on the lookout for dangerous complications. The following conditions are deemed to be indications for termination of the malaria.

- 1 Continued hyperpyrexia—refractory to sponging, etc.
- 2 Shock—extreme exhaustion between chills, foreshadowed as a rule by extreme restlessness and insomnia, rapidly falling blood pressure, etc.
- 3 Convulsive seizures—particularly when generalized
- 4 Tabetic crises—lightning pains, etc.
5. Rising urea nitrogen in the blood.
- 6 Hemorrhage—from mucous membranes or in skin (purpura).
- 7 Jaundice—not to be confused with icterus due to anemia
8. Cellulitis—developing about abrasions, bed sores, etc.
- 9 Bronchopneumonia
- 10 Acute splenitis—large, firm, tender spleen
11. Cardiac decompensation—characterized by thready pulse, cyanosis, oedema, basal pneumonia
- 12 Severe anemia—hemoglobin below 40, red cell count below 2 million, marked leukopenia.
- 13 Sudden overwhelming increase in parasites in blood
- 14 Stupor—between chills.

The use of digitalis and other so-called "cardiac tonics" as prophylaxis against circulatory failure during malaria is advised by some, but their efficacy in this respect is highly debatable. It is our opinion that in the presence of the high fever and toxemia of the malaria the therapeutic effects of cardiac stimulants are negligible, and that the only safe and

administration of tyyparsamide or neo-arsphenamine is begun at once. All reference to the term "cure" is avoided.

CHART B

Colorado Psychopathic Hospital

Graphic Chart

Case No.

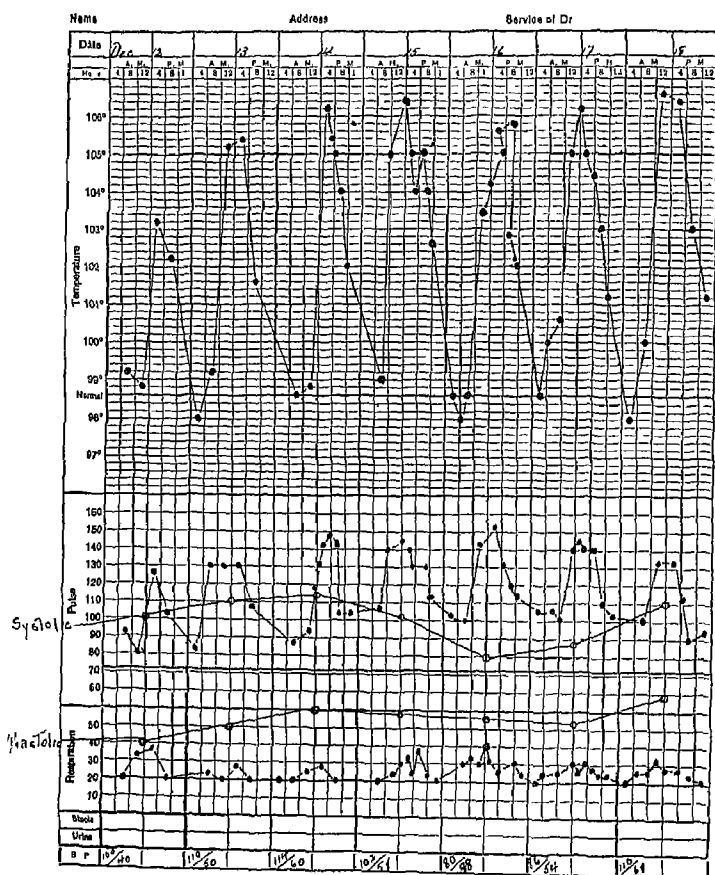


FIG 13

and the patient is impressed with the necessity of a prolonged period of continuous medical supervision. Many patients do not derive the full benefits from malaria till

several months have passed. During this period of convalescence it is highly advisable to continue the chemo-

CHART C.

Colorado Psychopathic Hospital

Beginning Tertian Changing To 2 Graphic Chart

Case No

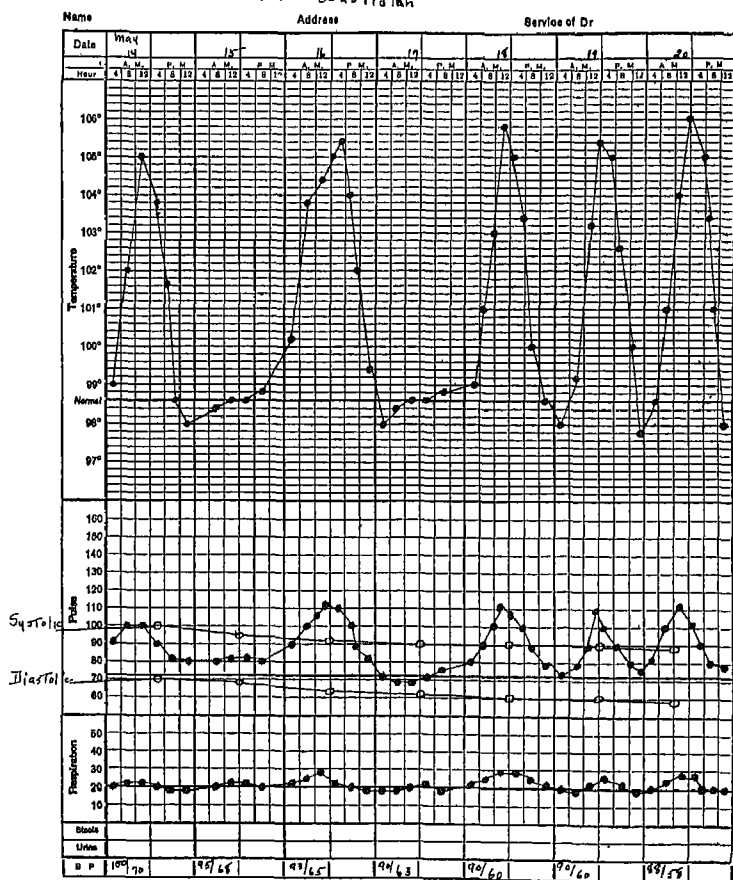


FIG 14

therapeutic attack—using not only the arsenicals but mercury, bismuth and the iodides as well since all have their place in a well conceived syphilotherapy In our series

permanent results are much more numerous in the group which have had the advantages of intensive post-malarial chemotherapy so that we have come to regard this as an essential part of the treatment of general paresis

The pentavalent arsenobenzol compound, tryparsamide, has been found to be particularly effective in post malarial therapy. It is more highly diffusible and decidedly less toxic than other arsenical preparations, although its efficiency as a spirocheticide is comparatively low. This drug is given intravenously in doses of 3 gm in 10 c c of sterile water on an average of once or twice a week. In general from 10 to 20 doses are given in a course, but occasionally the administration may be continued until 100 or more injections have been given.

Whenever it is used special consideration must be given to the eyes, since in rare instances the drug becomes toxic to the optic nerve causing complete or partial amblyopia. It is necessary to be particularly on guard when there is previous damage to the optic tract since it is in these cases that blindness is most apt to ensue. It is customary to control the administration of tryparsamide with frequent ophthalmoscopic examinations, visual field determinations and, perhaps above all else, to inquire carefully of each patient for symptoms of disturbance of vision. Any complaint of spots before eyes, dimness of vision, etc., is indication for immediate cessation of use of the drug.

Bunker finds reported results in the treatment of general paresis with tryparsamide alone comparable to those obtained with malaria, but it is our opinion that the combined therapy is more efficacious.

The accompanying three charts (see pages 151, 152, 153) show the characteristic febrile response obtained. Chart A shows typical tertian pattern, chart B shows a typical quotidian pattern which is undesirable and chart C shows a tertian pattern becoming quotidian. All three charts show the

changes that take place in blood pressure, especially marked in the quotidian case.

UNIVERSITY OF COLORADO
SCHOOL OF MEDICINE AND HOSPITALS

PATIENT	ADMISSION DATE	SERVICE	WARD	NO.
<div> <div>DOCTOR</div> <div> <div>DATE</div> <div>HOSPITAL DAYS</div> <div>POST OF DAYS</div> <div>HOUR</div> </div> </div>				
<div> <div>TEMPERATURE AND PULSE</div> <div> <div>180 110</div> <div>170 109</div> <div>160 108</div> <div>150 107</div> <div>140 106</div> <div>130 105</div> <div>120 104</div> <div>110 103</div> <div>100 102</div> <div>90 101</div> <div>80 100</div> <div>70 99</div> <div>60 98</div> <div>50 97</div> <div>40 96</div> <div>30 95</div> </div> </div>				
<div> <div>RESPIRATION</div> <div>BLOOD PRESSURE</div> <div>WEIGHT</div> <div>STOOLS</div> <div>URINE</div> <div>INTAKE</div> <div>OUTPUT</div> </div>				

PROCEDURE OF PHYSICALLY INDUCED FEVER

In recent years many clinics have administered fever therapy with various types of electrically operated "Fever Machines" The use of this equipment by skilled personnel

is safe and makes it possible to administer a prescribed amount of fever therapy at any temperature level desired.

The chief advantages of this method are the certainty of the fever, avoidance of waiting during the malaria incubation period, the possibility of administering chemotherapy during the febrile period, the avoidance of using a second disease (malaria) to combat the primary one, and the possibility of giving fever on an out-patient status to cooperative patients. Experience with physically induced fever is less extensive than with therapeutic malaria but in the clinic of one of us the method has proven more satisfactory although both methods are still in use. The preceding chart illustrates the ease and certainty of control of the febrile reaction.

It is our policy to administer 36-50 hours of fever at 105-8° F, given as bi-weekly sessions of 3-5 hours each. Charts showing comparable series treated by both methods are included later in this chapter. The same pre-fever examinations are necessary and the same contraindications apply in mechanotherapy as are outlined for malaria therapy in the preceding section. For further details of the method the student is referred to the authors listed in the bibliography.

MODE OF ACTION OF THERAPEUTIC FEVER

In early syphilis of the central nervous system as with other types of early syphilis, the response of the blood Wassermann to treatment is an accurate measure of the efficiency of the treatment. Treatment should be continued until the blood Wassermann and cerebral spinal fluid have become normal and remained so for one year.

In late neurosyphilis, on the contrary, the blood Wassermann is of no value as a treatment guide. Wassermann fastness is common even when spinal fluid is normal. "If the patient improves clinically and remains well, and if his spinal fluid shows a change for the better, the state of his blood Wassermann is of little or no practical importance."

(Moore) Wassermann fastness can of course indicate a latent focus outside the central nervous system

"The important phase of the serologic control of treatment in neurosyphilis lie in its effect on the spinal fluid abnormalities" "Almost any plan of treatment will reduce the cell count and protein content, the real test of efficiency lies in reduction of Wassermann positivity, or a change toward normal in the colloidal curve or both." (Moore) Spinal fluid examination should be done every six months Reduction of cell count and protein should be disregarded as of little value. The important change in spinal fluid, if it occurs at all, occurs during treatment with drugs while with fever it occurs about eighteen months after completion of malaria and is progressive

Though prolonged serologic negativity is certainly desirable, it is not an absolute criterion of clinical inactivity Some patients have a return to serologic negativity unaccompanied by symptomatic improvement or with further evidence of progression even after treatment has apparently accomplished both clinical and serologic arrest (e g Charcot joint) There are still others (large number) with complete symptomatic relief and permanent cessation of progression but in whom serologic normality is apparently unobtainable with any treatment (especially tabes and paresis).

To achieve clinical arrest prolonged treatment is essential, in no case should the duration of treatment be less than 2-3 years If at this time, the spinal fluid is such as to indicate that negativity may be obtained, it is desirable to continue treatment until this is reached and for 6-12 months thereafter If during three years treatment, including fever therapy, the spinal fluid reaches a stationary level short of complete normality, treatment may be stopped provided rigid post treatment contact is carried out.

In the various forms of neurosyphilis, persistently positive spinal fluid abnormalities do not indicate the certainty of

subsequent progression or relapse, provided the patient has been subjected to continuous, intensive treatment for a minimum period of 2-3 years, if this treatment has brought about symptomatic improvement and especially if malaria has been included in the treatment plan. (On the contrary, such patients may be assured with reasonable certainty that the chances are at least four out of five that good clinical results will be maintained over a considerable period of years and perhaps for an indefinite time. If relapse does occur, it is likely to be manifest within the first five years after cessation of treatment, and is especially likely to be parietic in nature, no matter what the type of antecedent neurosyphilis.

The patient should be safeguarded against progression or relapse by repeated physical or serological reexaminations, an interval history should be taken. Since relapse is much more likely to occur in the first 3-5 years, the patient should be examined every 6-12 months during this time. He should be examined every 12-18 months indefinitely and should, of course, report at once if any new or puzzling symptoms appear at any time. (It should also be borne in mind that progression may occur outside the central nervous system—especially cardiovascular syphilis.)

In the case of serological relapse (of any degree at all) in the absence of clinical symptoms, it is advisable to begin treatment anew.

One of our co-workers (Rymer) has shown after the study of 1360 cases the effect of inadequate treatment upon the development of central nervous system syphilis. He concludes that the most important procedure in syphilis at this time is a program of adequate therapy which begins with intensive treatment in the few days following the development of the chancre. This treatment must be continuous for a period of not less than 18-36 months.

2 In a high percentage of cases of syphilis there is an early invasion of the central nervous system as is shown by changes in the spinal fluid. These changes are manifested by alteration in the globulin cell count, Wassermann and colloidal gold curve

3. Inadequate treatment of early syphilis definitely shortens the period of incubation in cases of neurosyphilis

4. Adequate treatment of early syphilis will protect the individual from the development of serious manifestations of neurosyphilis.

In 300 cases of paresis treated with malaria at the Colorado Psychopathic Hospital the following group classifications were made

TABLE I—DURATION OF SYMPTOMS (MENTAL AND PHYSICAL) IN 300 CASES OF GENERAL PARESIS TREATED WITH MALARIA (C P H)

Clinical groupings	3 years and over			2 to 3 years			1 to 2 years			Less than one year			Total		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Male	15	21	7	5	13	2	10	25	10	44	63	25	74	122	44
Female	3	4	1	4	5	1	6	7	2	10	13	4	23	29	8

The criteria for estimation of clinical status are based chiefly upon social-economic factors so that "complete arrest" indicates remission of psychosis with ability of the patient to return to a social and economic level comparable to that occupied by him before onset of the psychosis, while "incomplete arrest" indicates but a partially successful adaptation due to more or less permanent defections in sensorium, emotional instability, etc. The use of simple tests for mental alertness—reaction time, association, memory, etc., frequently aid in estimating the degree of remission. Unfortunately no such group of tests can with accuracy

gauge the individual capacity for adjustment. *This can be learned only through close observation of the patient and not through relying entirely upon the statements of relatives who frequently are biased for economic and sentimental reasons*

Complete follow-up study by psychiatrist and psychiatric social worker is necessary if one is to approach accuracy in a statistical presentation of the results of therapy in general paresis.

RESULTS OF TREATMENT

The most reliable data on the results of treatment in neurosyphilis are those from the United States Public Health Service Cooperative Clinic Group under the direction of Dr R A Vonderlehr, Assistant Surgeon General, Division of Venereal Diseases. The institutions cooperating in the study were Central State Hospital, Indianapolis, Indiana, Colorado Psychopathic Hospital, Denver, Colorado, Mayo Clinic, Rochester, Minnesota, Miami Valley Hospital, Dayton, Ohio, Boston Psychopathic Hospital, Boston, Massachusetts, Strong Memorial Hospital, University of Rochester, Rochester, New York, Bishop Clarkson Memorial Hospital, University of Nebraska, Omaha, Nebraska, Western Reserve University, Cleveland, Ohio, New York Psychiatric Institute and Hospital, New York, New York, Henry Ford Hospital, Detroit, Michigan, Fitzsimmons General Hospital, Denver, Colorado.

These results have not been released for publication at this time.

The clinic of one of us (FGE) has been using therapeutic malaria for fifteen years and artificial fever therapy for five years. During this five year period patients have been assigned to the malaria and fever services in alternation, irrespective of age or condition at the time of admission. The results have been interesting and enlightening. The accompanying charts show II, the comparative serologic

response, III, the comparative clinical results, and IV, the results in the total series for the period 1925-1940.

TABLE II—COLORADO PSYCHOPATHIC HOSPITAL
FEBRUARY 1935-FEBRUARY 1940
Serological Results

	Artificial fever		Therapeutic malaria	
	No cases	Percentage cases	No cases	Percentage cases
Reversed	36	43.0 57.3	28	36.3 50.5
Improved	11	13.4	11	14.2
Unchanged	28	34.1	26	33.9
Deaths	7	8.5	12	15.5
Total	82	99.0	77	99.0

TABLE III—COLORADO PSYCHOPATHIC HOSPITAL
FEBRUARY 1935-FEBRUARY 1940
Clinical Results

	Artificial fever		Therapeutic malaria	
	No cases	Percentage cases	No cases	Percentage cases
Marked improvement	20	35.3 70.7	14	18.2 57.1
Improved	34	41.4	30	38.9
Unimproved	12	14.6	21	27.2
Died of syphilis				
During treatment	1	1.2	3	3.9
Later	4	4.8	6	7.8
Deaths due to other causes	2	2.4	3	3.9
Total	82	99.0	77	99.0
	6 mos-5 years Ave Follow 2.6 yrs		6 mos-5 years Ave Follow 2.6 yrs	

TABLE IV—CLINICAL RESULTS—GENERAL PARESTH
FEBRUARY 1925—JANUARY 1937

Marked improvement	$\left. \begin{array}{l} A \\ B \end{array} \right\}$	$\left. \begin{array}{l} 71 \\ 80 \\ 9 \end{array} \right\}$	$\left. \begin{array}{l} 15\ 9\% \\ 18\ 0\% \\ 2\ 0\% \end{array} \right\}$
Improved	$\left\{ \begin{array}{l} A \\ B \end{array} \right.$	$\left\{ \begin{array}{l} 121 \\ 149 \\ 28 \end{array} \right.$	$\left\{ \begin{array}{l} 27\ 2\% \\ 33\ 5\% \\ 6.3\% \end{array} \right.$
Unimproved		100	22 5%
Worse		15	3 4%
Died during treatment		32	7 2%
Sub to 3 mos		2	44%
Subsequently		56	12 5%
Other causes		11	2 5%
Total		445	99 94%

The apparent superiority of the artificial fever series may be due to the fact that patients treated by this method receive chemotherapy during the fever session and they remain in excellent general physical condition during the treatment period. Detailed analysis published elsewhere shows the statistical difference appearing immediately after the fever therapy and merely being maintained through the follow up years.

Experience with quartan malaria suggests that prefever and possibly intrafever chemotherapy may be used. This should result in improved results from malaria therapy. At any rate, both methods are efficient, and the practitioner should select the method best suited to his particular needs. The importance of careful, prolonged follow up chemotherapy should be re-emphasized.

The accompanying chart illustrates graphically the treatment plan used in our clinic.

COLORADO PSYCHOPATHIC HOSPITAL

Treatment of Neurosyphilis

Fever Therapy

Physically Induced Fever

(50 hrs)

105°-106°

Therapeutic Malaria Fever

(50 hrs)

104°-105°

Chemotherapy

Tryparsamide

20 injections

3 grams each

weekly intervals

Continuous

treatment

1-3 years

Neoarsphenamine

8 injections

.45 gm each

weekly intervals

Check eye grounds

weekly

Bismuth salicylate

8 injections

26 gm each

weekly intervals

Check serology each

6 months

Check
physical and mental
twice yearly

The influence of treatment upon spinal fluid serology varies greatly. There seems to be no correlation between the response of the blood serology and the clinical response. The relationship between the response of spinal fluid serology and the clinical response is more complex and less easy to understand. In an individual case the clinical course may show a marked improvement with no change in serology and another case may show a prompt reversal of serology with no notable clinical improvement. In a series of cases, however, there seems to be a rough correlation between the clinical and serologic response. A study of Tables II and III tends to show this. The percentage of improvement both clinically

and serologically being a little higher in the artificial fever group. More detailed studies such as the Cooperative Clinic Survey are necessary to give valid information along this line. In general, clinical improvement seems to precede improvement in serology.

MODE OF ACTION OF THERAPEUTIC MALARIA—(D)

Walter L. Bruetsch, Indiana University School
of Medicine, Indianapolis)

The manner by which therapeutic malaria brings about beneficial results in general paralysis is still a disputed question. Before the introduction of the malaria treatment occasionally a few parietic patients improved sufficiently to be released from institutions. Investigation of these spontaneously recovered cases showed that they had had—while they had paresis—an incidental febrile disease, such as typhoid fever, pneumonia, or facial erysipelas. This observation, together with the fact that the paroxysmal rise in temperature constitutes the most outstanding feature of the malaria treatment, gave rise to the theory that increased temperature by injuring or destroying spirochetes is the fundamental factor. The adherents of the fever theory made efforts to submit evidence, indicating that the spirochete of syphilis is especially susceptible to temperatures above normal. Weichbrodt and Jahnel produced an experimental chancre in rabbits and exposed these animals to an incubator temperature of 105.8° F, producing a rectal temperature of from 107.6° to 111.2° F. After having repeated this exposure not less than three times a progressive disappearance of the spirochetes in the chancre was noted, while in the control animals, which were not exposed to heating, the spirochetes could still be demonstrated in serum obtained from the lesions. These experiments were repeated by Schamberg and Rule and subsequently by Frazier. The latter author also found that body temperatures from 106°–110° F. result in a definite inhibition of experimental syphilis.

But at the same time Frazier observed that temperatures ranging between 103° and 105° F. are without significant effect upon the spirochetes. For a practical purpose this observation evidently showed that temperatures which can be produced with safety in man are not deleterious to the syphilitic organisms. The thermal death time of *treponema pallidum* in vitro has been given by Boak, Carpenter, and Warren as five hours at 102.2° F.; three hours at 104° F., two hours at 105.8° F.; and one hour at 106.7° F. The finding of spirochetes in the brains of unimproved paretics, who had 8-12 malarial paroxysms ranging between 104° - 105° F., is convincing evidence that even the highest possible temperature which can be produced by malaria is not sufficient to sterilize the brain of the *spirocheta pallida*. Furthermore, the observation that clinical and serological improvement occurs in parietic patients, who have little or no temperature during the malaria treatment, supports the thought that elevated temperature is only a minor factor of a number of highly complicated phases which make up the modus operandi of therapeutic malaria.

During the malaria treatment tissue changes take place in the human organism. The cellular reaction, induced by malaria, consists of an activation of the mesodermal tissue in which the stimulation of the histiocytes (clasmatocytes, macrophages) is an outstanding feature. Histologic examination of the brain and internal organs of patients who died during acute malaria revealed the presence of a high leukocytosis in the vessels of the internal organs. In the peripheral blood, however, there is only a moderate increase of leukocytes. An important characteristic of the internal leukocytosis is the presence of numerous highly stimulated histiocytes averaging between 20-35 per cent of the total number of the white cells. Other names used for the same cellular elements are clasmatocytes or macrophages. They are the cells which make up the reticulo-endothelial system. The histiocytes are normally present in the liver, spleen, and bone

marrow as histiocytic lining cells forming the walls of the capillaries and sinusoids. In the loose connective tissue of some organs they are almost as numerous as the fibroblasts and are spoken of as resting tissue histiocytes. Under the



FIG 15.—Venule from brain, filled with mononuclear cells, illustrating the histiocytic leukocytosis in the internal circulation. The patient died at the height of the seventh paroxysm. Temperature 104° F. (Courtesy of Waller L. Bruetsch, *J Nerv & Ment Dis* 67: 209, 1928.)

stimulating effect of the malaria plasmodia both the histiocytic lining cells and the resting tissue histiocytes are transformed into highly phagocytic cells. The histiocytic lining cells are showered into the circulation as blood histiocytes. The tissue histiocytes are stimulated to great activity. In particular, in the bone marrow and in the spleen there is a marked increase of the active form of this cell type, leading

to what may be termed new-formation of phagocytic tissue. It has been demonstrated (Cunningham, Morgan, Tompkins, Harris) that the defense against the syphilitic spirochete is related to an increase of the mononuclear group of cells, i.e., the very cellular element which is activated by malaria. In the brain cortex of untreated paretics the number of the perivascular clasmatocytes is greatly decreased, and



FIG 16—Large, stimulated histiocyte having phagocytized five lymphocytes. The cell was found in the pia-arachnoid of a paretic patient who died 19 days following inoculation with malaria. Toluidine blue stain $\times 1600$ (Courtesy of Walter L. Brunsch)

there is a lack of activity of the cells of the reticulo-endothelial system in all the organs, as can be shown with the supravital method. Therapeutic malaria modifies the course of genetal paralysis by increasing the number and activity of the histiocytic or clasmatocytic cells. They seem to function both as a result of the increased phagocytic activity as well as by the production of immune bodies. The enhanced activity of the mononuclear elements seems to be primarily concerned in resolving the paretic brain lesions (perivascular infiltrations) rather than in destroying spirochetes by the way of phagocytosis.

In addition, the reactive changes on the endothelial cells of the brain capillaries play an important role in the treatment of paresis with malaria. The stimulation of the endothelial cells of the capillaries and capillary venules of the brain cortex and of the meninges is responsible for the varied degrees of permeability during and after the

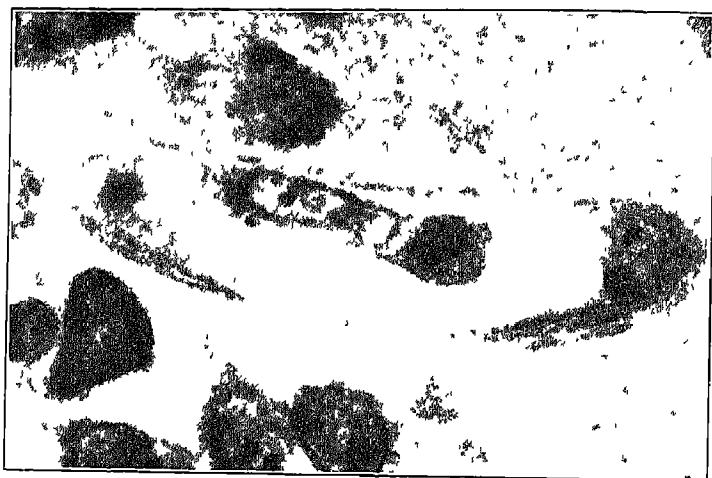


FIG 17—Capillary from the brain cortex of a patient who died during malaria treatment. The picture shows maximal stimulation of an endothelial cell, in which instance the cell detaches itself and enters the circulation as an endothelial phagocyte. Moderate endothelial stimulation is evidenced by a swelling of the reticular cytoplasm, the endothelial cell maintaining its position in the capillary wall. Toluidine blue stain. $\times 1600$ (Courtesy of Walter L. Bruelsch *Am J Psychiatry*, 12, 19, 1932)

malaria treatment. One of the important features of the pathophysiology of general paresis is the increased permeability of the capillary network of the brain parenchyma. Due to the stimulating effect of the plasmodia the already increased permeability of the cortical capillaries and capillary venules becomes more pronounced during the malaria treatment. This observation is in accordance with views established by physiologists (Ebbecke), namely, that stimulation of endothelial cells and increase in permeability parallel

each other. After the malaria treatment the increased permeability is gradually reduced and becomes normal in those patients who respond well to the treatment. This subsequent reduction of the permeability is explained by the

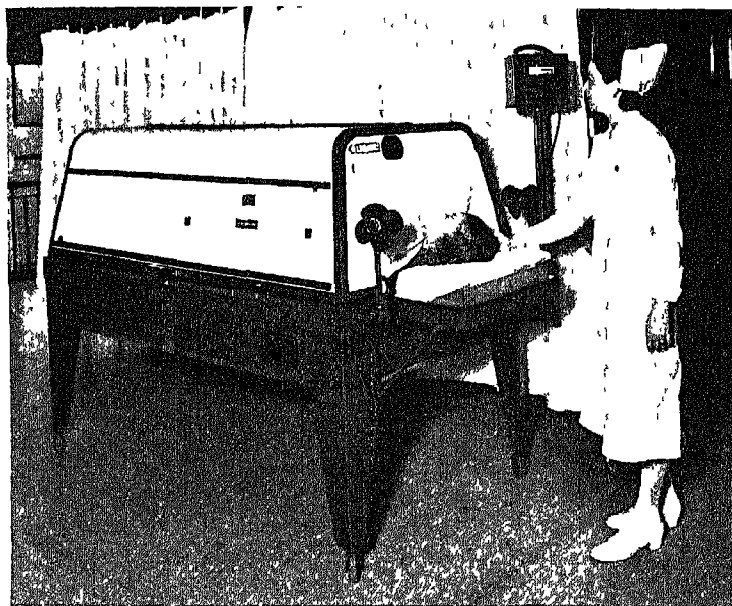


FIG. 18—The Hypertherm is an air-conditioned apparatus for the artificial induction of fever used in the clinic of one of us. The apparatus, is designed to give adequate and simple control of air temperature, air humidity, and air velocity. With this apparatus it is possible to elevate and maintain the body temperature to any desired level. It has the advantage of ease and simplicity of control in trained hands. (*Illustration courtesy Mr. Edwin Sittler, Liebel-Flarsheim Company, Cincinnati, Ohio*)

fact that endothelial stimulation is associated with a reversible increase in cell permeability (Lillie) and, furthermore, that as a result of a previous stimulation of extraordinary magnitude the reduction in permeability becomes more pronounced (Petersen, Levinson, and Hughes). Endothelial stimulation of the capillaries of the brain cortex by the malaria plasmodium and, in addition, by the debris of the red

corpuscles is thought to be one of the more important phases of the therapeutic effect of the malaria treatment of general paralysis

In many clinical quarters the impression has been that the malaria treatment of general paralysis is superior to any other form of therapy. Rapidly taking its place among accepted forms of hyperpyrexia treatment for general paresis is Artificial Fever Therapy

Paretics are given 50 hours of fever between 105 and 106° R., in courses of one 5 hour treatment period each week Through the use of Artificial Fever Therapy there is a *lowered mortality, better regulation of temperature, less danger of cardiac or respiratory failure* and the elimination of the necessity of hospitalization In the clinic of one of us (F G E) both types of treatment are being used

SENILE PSYCHOSES

The student who is familiar with Swift's masterpiece of satire, "Gulliver's Travels" will recall that occasionally on the island of Luggnagg, a struldbrug, or immortal was born At birth a struldbrug had a red circular spot on the forehead directly over the left eyebrow, "which was an infallible mark that it would never die " The birth of a struldbrug was a public calamity, since even though they could not perish physically, yet they were doomed to all the physical and mental infirmities of advanced age Swift gives a remarkable description of senile dementia.

"When they came to fourscore years . they were not only opinionated, peevish, covetous, morose, vain, talkative, but incapable of friendship, and dead to all natural affection, which never descended below their grandchildren Envy and impotent desires are their prevailing passions At ninety, they lose their teeth and hair, they have at that age no distinction of taste, but eat and drink whatever they can get, without relish or appetite . . In talking, they forget the

common appellation of things, and the names of persons, even of those who are their nearest friends and relations. For the same reason, they can never amuse themselves with reading, because their memory will not serve to carry them from the beginning of a sentence to the end, and by this defect they are deprived of the only entertainment whereof they might otherwise be capable."

Definition—The senile psychoses are progressive mental disorders, due to pathological old age, marked by defective mental functioning and notably by impairment of recent memory.

Etiology.—Brain destruction conditioned by cerebral arteriosclerosis and other factors including old age and possibly by toxic and hereditary influences. The greatest incidence is between the ages of sixty and seventy-five. Meggendorfer finds a familial tendency and believes that alcoholism favors early development.

Pathology — (Neuropathology — N. W. Winkelman) Grossly, the brain is small—the convolutions narrow, and the fissures wide, this being especially marked over the fronto-rolandic cortex. The pia-arachnoid is markedly thickened and somewhat hazy, the sulci are filled with collections of cerebrospinal fluid. The vessels, especially those at the base are tortuous and sclerotic.

Microscopically, the cortical sections show definite atrophy with loss of ganglion cells and increase of glia, with prominent vessels—made prominent by their thickened walls. In places the vessels show a few cells in their lymphatic spaces—which prove to be fatty granule cells. An excess of fat is present throughout the entire cortex—not only in the parenchyma but throughout the interstitial tissue. With Bielschowsky stain (Fig. 25) the characteristic senile plaques are visible—in all stages from their beginning in the breaking up of large glia cells to the final plaque formation. (Stages seen are those given by A. Jacob.) These plaques are

present not only in the cortex but in the basal ganglia as well



FIG. 19.—Senile plaque from the brain cortex of a patient who had an advanced senile psychosis (Bielschowsky stain)

The blood vessels show thickened walls, due (1) to increase in the intima, of a degenerative rather than of a proliferative nature, (2) to fibrosis of the adventitia

The cellular picture throughout the entire brain is that of (1) great decrease in number, (2) fatty changes, (3) atrophic changes, (4) Alzheimer's fibril change is a feature

The pia-arachnoid shows a definite fibrosis with the presence of abnormal elements—mainly gitter cells and detached mesothelial cells

The convolutions are narrowed and uneven. The ventricles are widened, frequently giving the appearance of a hydrocephalus

Symptoms and Diagnosis—Senile psychoses are classified into the usual clinical types and a case of the simple deterioration type as well as one of the paranoid types will be presented. The percentage of these types are as follows

Simple Dementia	49 88%
Delirious and confused types	18 61%
Depressed and agitated types	7 39%
Paranoid states	15 75%
Pre-senile ¹ type	
Presbyophrenic ² types	8 54%

¹ Alzheimer's disease is an early senile deterioration which usually leads rapidly to a definite dementia. Cases have developed as early as 40 years, usually with marked affective disturbances, often with aphasic or apractic symptoms. At autopsy approximately one third of the nerve cells are destroyed and are replaced by darkly staining fibril bundles in the form of inhibitory plaques. These plaques are the result of the degeneration of nerve cells and thickening of the glia elements and are regarded as pathologically diagnostic (Bonfiglio, Binet, Bielchowsky, Fuller, & Klopp.)

² Presbyophrenic type. These patients show marked memory and retention defects and disorientation with preservation of mental alertness and ability to take in their surroundings. Suggestibility and fabrication are marked symptoms and in general they resemble a Korsakow's syndrome.

A well developed case offers no diagnostic difficulties. Early recognition attains great importance in view of the fact, that the senile dement is readily victimized by designing individuals, and thus may bring disgrace to his family and waste his resources. There is apt to be a prodromal period of several months duration, during which the patient is irritable, sleeps poorly, complains of malaise, muscular weakness and anorexia, and becomes seclusive. The mental powers show impairment, recent memory becomes uncertain and faulty recollection is supplied by crude fabrications. The patient wanders about aimlessly and may lose his way.

The emotions deteriorate. Normal sympathy is lacking. Obstinacy, stubbornness, self centering of interests, selfishness, outbreaks of temper, moral laxities etc., distort the personality and lead to troublesome behavior. Penuriousness is common. The signs of senility and physical decay are obvious. This is the background of the clinical picture. The predominance of special features determines the variety of the senile psychotic reactions.

CASE 5. Senile Psychosis. Simple Deterioration.
L. J. Age 69 years.

The onset was very gradual extending over the last three years. The patient's relatives noted marked forgetfulness with the development of periods of confusion during which the patient wandered about the house at all hours of the night imagining she was fulfilling her usual household duties. At times she wandered away from home and had to be brought back by the police. During the past year she had been very irritable and "nasty," particularly toward her daughter who has been considerate and helpful. There has been a marked decline in her general physical condition.

The personal history was essentially negative. Mrs. J. was always in good general health, and has seven children all of whom are living and well. She has been a widow for the past twenty years and worked as a cook until five years ago when her daughter undertook to care for her.

The mental examination of the patient revealed her to be a very simple, childish, woman of advanced age. She frequently became confused and was unable to find her bed.

Her talk was irrelevant but she was able to describe accurately many events that happened years ago when she was living on a farm in Virginia. Her relatives verified many of these statements.

Her mood tended toward depression. She felt "wretched and downhearted" because she thought that she had been neglected at home and was very paranoid in her attitude

toward her daughter. She accused her of hiring attendants to take all of her property from her while she was still living and have her placed in an "Old Ladies' Home" for life. Mrs. J. was very indignant and raised her voice when she described this mistreatment. No hallucinations were elicited.

She was disoriented for time and person, but realized that she was in the hospital. There was marked impairment of recent memory but excellent memory for remote events. At times to fill in discrepancies in recent memory she used fabrications. For instance, she said that yesterday she was walking downtown doing the morning marketing, described her purchases, and then asked indignantly, "What am I doing here?" Every time she reminisced she described accurately former experiences. She could retain only four digits. She was unable to describe the "cowboy story" or to retain an address given her. She showed poor grasp of general information, calculation, and judgment. She had insight into her condition. "I am just old and too forgetful and absentminded" was her way of describing her condition.

Physically we found a feeble, old lady, 5' 1" tall, weighing 127 pounds. Her hair was gray. Marked atrophy of the skin. Advanced arcus senilis. Blood pressure was 160/95. Heart sounds were of poor quality. All other systems were negative. The neurological examination was negative. Blood Wassermann was negative.

Her course in the hospital was uneventful. She was recommended for commitment. One year after commitment there was much evidence that her condition had progressed, and she still continued to show depression.

DISCUSSION

This case illustrates the beginning of senile psychosis which usually occurs after 65 years of age. An onset with forgetfulness, memory defects, periods of confusion, (especially nocturnal agitation) is to be expected. Depression and

marked paranoid trends are frequent. Many of these patients have insight into their condition and psychiatrists feel that commitment is not always justifiable as the patient sometimes may be taken care of in an appropriate Home for the Aged without legal commitment, or be under close supervision by their relatives.

CASE 6 Senile Psychosis, Paranoid Type. *J. K., a 79 year old white male was admitted under the 1927 law of Colorado when he pleaded not guilty by reason of insanity of killing a county farm official*

The patient shot and killed the County farm superintendent against whom he had nursed fancied grievances for a number of years. He admitted that he had a revolver with him every time he talked to the superintendent during the year prior to the slaying. In the past ten years since his admission to the County farm he has become extremely angry when they accused him of things he did not do. He felt talked about constantly and discriminated against by the man he killed.

The developmental history was unobtainable since there were no other informants and the patient's memory was wholly unreliable.

The patient remained in bed since he was too weak to be on the ward. He was untidy and required constant supervision by attendants. He complained constantly of head noises and dizziness. There was extreme circumstantiality of talk but his answers to questions were coherent and relevant. Of his spirits he said he felt "numb" and had "no ambition." He acknowledged irritability most marked in recent years. His sleep he said was poor in the early morning hours.

Most prominent in examination of special preoccupations were the paranoid trends.

These were directed against his entire environment at the County farm but particularly against the superintendent.

When asked if he felt discriminated against by the latter he replied, "decidedly so. He treated me worse than any other. He was always doing stinkin' little things to tantalize me." He believed the other inmates talked about him and referred to him as "that crazy old bee man." Delusions of being robbed were elicited. There were no hallucinations or ideas of passivity.

He was completely disoriented for time and place. Both recent and remote memory were very defective and he stated in response to questions, "Oh, dear, everything's a blank." He was unable to retain even four digits. Could reverse none and failed to recall even one object in six after three minutes. Calculation was impossible and attempts to examine for grasp of general information elicited only the reply, "My, if I only had my memory together." Judgment and insight were lacking and the patient was unable to write his own name.

He appeared definitely senile, was somewhat stooped, walked with a shuffling unsteady gait, was quite deaf and spoke indistinctly. Remaining teeth were carious, dirty and broken off. He was emaciated and the ribs were prominent. Chest was hyperresonant, the aortic second accentuated. There were old abdominal scars and neurologically the abdominal reflexes were absent while the knee jerks were sluggish.

All laboratory procedures including blood, urine and spinal fluid examinations were negative.

During hospitalization the patient was exceedingly feeble, ate poorly and showed a rather characteristic day-night reversal of sleep. Paranoid trends, complaints of roarings in his head and thinking difficulty were frequently expressed. He was returned to his County, stood trial for the slaying but was duly committed to the State hospital because of his senile deterioration upon which basis the crime had occurred.

DISCUSSION

The complete disorientation, recent and remote memory defects, gross sensorium deficit, clearly point out the organic basis for this psychosis. In view of the patient's age and physiological changes of a senile sort, we are justified in concluding this to be a senile psychosis. Delusions of being robbed are exceedingly common in the senile and must be considered carefully from a social aspect when they reach the proportion as to involve individuals whose lives become endangered, as in this instance. This fact is one of the strongest arguments for commitment of the paranoid senile.

Course and Prognosis—The course is essentially chronic and progressive and the outlook absolutely unfavorable. Pneumonia the "friend of the aged" may release the patient in a few years, or chronic colitis, cystitis or decubitus may close the scene.

Treatment. The patient should be protected from the consequences of his psychotic behavior. To be kept in mind are the liability of physical injury, of sexual offenses, disgraceful marriages, etc. Pyromanic proclivities or simply memory losses may result in serious burns and loss of property. Suicide is frequent. An easily digested diet, warm clothing and measures against constipation must be provided. Insomnia may be controlled by mild hydrotherapy and simple hypnotics of which sedormid offers perhaps most satisfactory results because of its quick action and elimination. Often a mental hospital is the wisest solution, not only for the patient but to relieve the distress of the family.

PSYCHOSES WITH CEREBRAL ARTERIOSCLEROSIS

The differentiation between senile and arteriosclerotic psychoses is always difficult and some times impossible.

Necropsy findings usually sweep aside theoretical clinical considerations. In general, arteriosclerotic brain disease occurs somewhat earlier in life. Peripheral blood pressure is not a safe index since it is not necessarily high. The authors feel that they have diminished their own margin of diagnostic error by refraining from the diagnosis of arteriosclerotic brain disease unless there is evidence of general (headache, dizziness, fainting attacks, etc.) and more particularly focal (aphasia, paralyses etc.) brain damage.

Pathology—(Neuropathology—N. W. Winkelman) Grossly the brain is somewhat smaller than usual. There is marked convolutional atrophy especially over the anterior half of the brain with an overlying thickened and translucent piaarachnoid which is fibrotic—it contains some phagocytic cells—mainly of the granule cell type. The arachnoid is particularly thickened with little nests of arachnoidal cells at intervals. The cortex is narrower than is usual—with a lessened number of ganglion cells in all layers and with an increase in the number of glial nuclei. The ganglion cells show all types of changes. Chromatolysis, sclerosis, atrophy, fatty degeneration, etc. Here and there throughout the entire brain, especially in the gray matter are small areas of softening, sharply delimited filled with granule cells laden with fat and blood pigment—carrying their burdens to the neighboring vessels about which they are collected—in the perivascular lymph spaces. These softened areas are in various stages—some recent, some old and are in relation to the blood vessels.

The blood vessels are found to stand out very prominently because of their thickened walls which on further study are seen to involve the intima mainly, and the adventitia to a lesser extent. The intima is thickened irregularly being degenerative in character with reduplication and fragmentation of the elastic lamina. Many of the vessels are hyalinized. Bielschowsky stains show no senile plaques.

in any of the sections studied Fat stains show little fat except in the areas of softening, or about the vessels

CASE 7. Cerebral Arteriosclerosis with Psychoses.
L. A. , a 57 year old white male was admitted on a court order for observation. He complained that, "I have weak spells, I've had them for four years. I get dizzy, sometimes I think it's my mind My family upset me all the time."

As corroborated by the family the patient was seemingly alright and presented no anti-social behavior until about four years earlier Since then he has grown irritable, complains frequently of dizziness and expresses numerous somatic complaints He argues and disagrees with everyone and is domineering in the home. About one and one half years ago he was arrested and jailed after threatening his wife with a shot gun In the past year he has shown a great deal of emotional instability and expressed ideas of infidelity on numerous occasions Ten days prior to admission he backed four members of his family to the wall with a knife and threatened to cut them to pieces "just to show them I was still boss."

The developmental history is that of an individual with a sixth grade education with no serious illnesses or accidents who has outgoing social interests and whose marriage has been compatible until about four years ago He had farmed all his life.

The family history was significant in that his mother and one sister died of "apoplexy."

His examination upon admission showed him to be a neat, well nourished male of stated age who displayed prominently emotional lability, weeping frequently but quickly shifting to a different mood level. His talk was coherent and relevant and he displayed a defensive attitude with definite paranoid trends He admitted increased irritability for four years and said he occasionally lost his temper. He was preoccupied with his wife's supposed infidelity and accused

his children of wanting him "out of the way" He believed they purposely did things to antagonize and upset him. Hallucinations were not elicited Orientation was satisfactory but examination of remote memory was punctuated by such remarks as "I'm gonna guess," "Now let me see," and "Well sir I can't tell you." Recent memory was intact He retained six digits forward and reversed four He recalled four of six test objects after three minutes Calculation and general information were fair but judgment was impaired and insight was wholly lacking

Physically he showed an athletic habitus, tremors of the tongue and fingers, retinal sclerosis and a blood pressure of 106/70 Laboratory tests were non-contributory.

He was adjudged incompetent on the basis of his psychosis with cerebral arteriosclerosis and committed to the State Hospital

DISCUSSION

This case gives a fairly typical picture of psychosis with cerebral arteriosclerosis The age incidence, increasing irritability, dizziness, emotional lability, ideas of infidelity and sensorium defects are all thoroughly characteristic. It is interesting to note in this case that a sister died of "apoplexy" Osler has pointed out heredity as a very important factor in the development of arteriosclerosis

A progressive mental deterioration is the usual picture, often with marked excitement, depression, and delirium Autopsies performed in state hospitals show that in arteriosclerotic cases softening is relatively more frequent than hemorrhage. It is extremely difficult to separate this group from senile psychoses They both manifest themselves during the senile period and the two conditions may be associated The presence, however, of a hypertension¹ with physical syndrome as noted above seems to indicate

¹ In a certain percentage of cases peripheral blood pressure is low

a psychosis with cerebral arterio-sclerosis These psychoses are fairly frequent, averaging 2 1%.

EPILEPSY AND EPILEPTIC PSYCHOSES

Convulsive reactions occur in a wide variety of conditions and these convulsive syndromes are usually referred to as "the epilepsies" The number of pathologic states which may be accompanied by convulsive phenomena is suggested by the clinical classification of Jelliffe and White

Jelliffe and White give an excellent clinical classification

1. Epilepsies of Gross Brain disease

Parcsis

Cerebral Syphilis

Hydrocephalus

Meningitis (Luetic, Tb)

Traumatism (Fracture, cavernous, hemorrhage).

Cerebral Sclerosis

2. Epilepsies of Toxic and Infectious Origin

Uraemia

Diabetes

Lead Poisoning

Alcohol

3. Borderline Conditions

Endocrine Dysfunctions

Dystrophia Adiposis Genitalis

Various psychoses as in manic states and in dementia praecox.

The convulsive syndrome associated with any of the above conditions, or with brain tumor and other structural alterations of the brain are more properly referred to as "symptomatic epilepsy" if the term epilepsy is to be used at all

Idiopathic epilepsy or genuine epilepsy has been conclusively demonstrated to be a "disordered functioning of the rate-regulating mechanism of the brain", "a paroxysmal cerebral dysrhythmia" by the excellent electroencephalo-

graphic researches of Lennox, Gibbs and Davis, with conclusive confirmation by other workers in this field. Typical electroencephalographic tracings from normal and epileptic

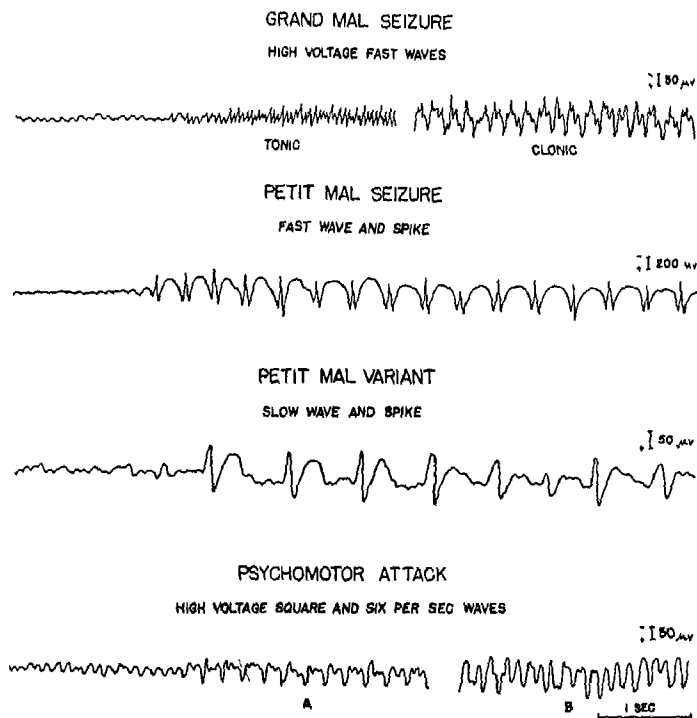


FIG. 20—Type of abnormal activity encountered in epilepsy and the variety of seizure with which each is associated (from an article by one of us [F. A. G.]). Grand Mal Seizure: Typical pattern, with electrodes on the left frontal region and ear. Petit Mal Seizure: Typical pattern, with electrodes on the left frontal region and ear. Petit Mal Variant: Typical pattern, with electrodes on the left occipital region and ear. Psychomotor Attack: Typical pattern, with electrodes on the left occipital region and ear. A represents the onset, B, a later phase. These abnormal patterns can appear without, as well as with, clinically obvious seizures. (Courtesy Dr. W. G. Lennox and Dr. F. A. Gibbs.)

patients are furnished as evidence of this dysrhythmic state of the cerebral cortex.

Abundant evidence of the variations in the physiochemical processes of the body is also rapidly accumulating but to date

the information is fragmentary and further work must be done before a clear picture may be formed from the rapidly accumulating fragments of this complicated clinical mosaic known as epilepsy. The diagnosis is often difficult. The presence of major convulsions in the absence of positive

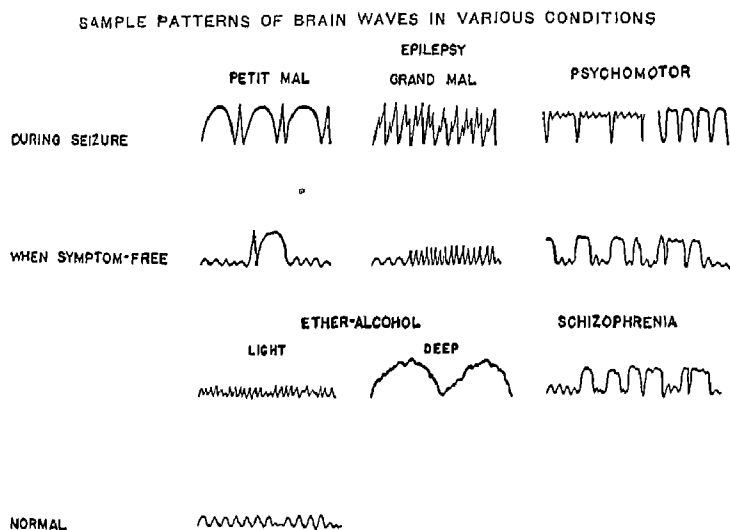


FIG 21—Schematic patterns of brain waves encountered in various conditions. Not only the frequency of waves, but the relationship between slow and fast waves is significant. The uppermost row of curves indicates the pattern of brain waves during various types of epileptic seizures. The second row indicates the pattern in these same patients at times when they are free of seizures. The third row shows the pattern in patients under the influence of ether and of alcohol and a patient with schizophrenia. At the bottom is a portion of a normal curve for purposes of comparison. (Courtesy Dr. W. G. Lennox)

physical, neurologic or laboratory evidence of other convulsant disease or disorder justifies such a diagnosis. These seizures should be witnessed by a trained physician and such diagnosis should not be based on a lay person's description or history. The electroencephalograph offers a sure and quick means of diagnosis where such apparatus is available. Many methods for artificially inducing seizures have been

suggested. The most satisfactory ones being hydration tests and sub-convulsant (2 cc) doses of metrazol. The presence of the so-called epileptic personality characteristics are also of distinct aid in establishing a diagnosis. These characteristics are egotism, conceit, emotional instability, hypochondriasis, sickly sentimentality, inadaptability to environment, cruelty, irascibility, impulsiveness, etc. The Rorschach test is of definite value in the differential diagnosis. The chief difficulty is in distinguishing between epileptic convulsions and epileptiform seizures due to hysteria. The accompanying table lists a few of the pertinent differentiating signs.

TABLE V—DIFFERENTIATION BETWEEN HYSTERIA AND EPILEPSY

Convulsions Due to Epilepsy	Convulsions Due to Hysteria
1 Patient unconscious during and following the seizure	1 Patient usually conscious during seizure
2 Patient falls and often injures self	2 Patient falls gently and injures self slightly if at all
3 Patient cyanotic, respirations stertorous	3 Color and respirations remain unchanged
4 Pupils fixed to light and eyes frequently rolled upward	4 Pupils respond to light, patient often surveys audience for effect
5 Tongue frequently bitten, patient often drools	5 Tongue rarely injured, salivation infrequent
6 Incontinence of bowel and bladder often seen	6 Incontinence rare. When present is used for effect
7 Seizures may occur at any time, often at night	7 Seizures occur in an emotional setting, usually before an audience
8 Amnesia for the events during and following the seizure	8 Patient recalls seizure and events following it
9 Neurologic signs of cortical irritation, hyperreflexia, positive Babinski, etc	9 Neurological findings normal
10 Patient usually sleeps following seizure, confused on awakening	10 Patient usually alert following seizure, confusion infrequent and mild when it occurs

Spratling found that the disease had its onset before the age of ten years in 38.5%, between the ages of ten and twenty years in 43%; and between the ages of twenty and twenty-

nine years in 9% Gower states that 76% develop symptoms before the age of twenty years

The convulsive seizures are usually classified into two large groups as Grand mal or Petit mal depending upon the nature and severity of the attack In both instances there is disturbance of consciousness, which is minimal in the minor

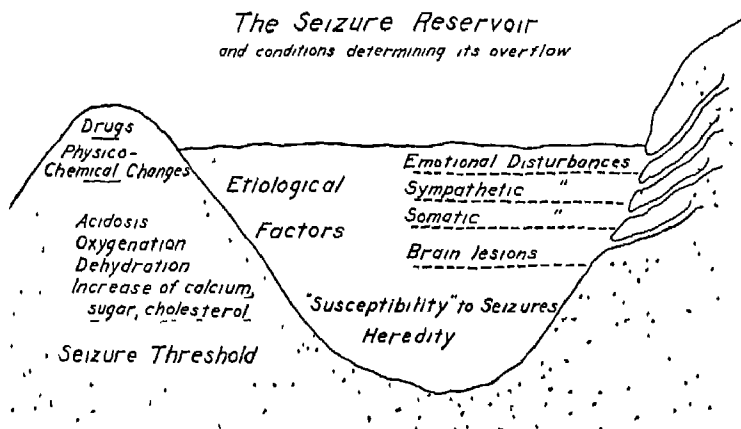


FIG. 22 —The various influences which make for seizures in an individual are represented as waters impounded in a reservoir. Five groups of causes are recognized, viz, seizure susceptibility or heredity, brain lesions, abnormalities of the body outside the brain, disturbances of the sympathetic nervous system, and emotional difficulties. Through feeding springs, the volume of water may be continuously increased, so that there is a periodic overflowing of the restraining banks in the form of a seizure. In order to keep the waters below the overflow level the incoming springs must be discovered and blocked and the banks, representing the seizure threshold, raised. Careful study of the individual patient will usually discover two or more causes of seizures. The relative importance of each cause will vary in different patients and in the same patient from time to time. (Courtesy Dr W G Lennox and Dr F G Gibbs)

and marked in the major or grand mal seizures. Muscular phenomena or equivalent psychic states occur in both disorders, varying widely in degree. The classification of Kinnier Wilson contains the principal clinical types of seizure

A Motor epilepsy

- 1 Myoclonic jerks without loss of consciousness

- 2 Epilepsia partialis continua (Kojewnikoff's epilepsy)
 - 3 Tonic epilepsy (so-called cerebellar fits)
 - 4 Coordinated epilepsy (the typical grand mal attack)
 - 5 Akinetik epilepsy (transient flaccid states)
- B Sensory epilepsy
- 1 Reflex
 - 2 Sensory.
 - 3 Affective
- C Psychic variants
- D Visceral variants

It is not within the province of this book to discuss epilepsy in detail, and we plan to discuss only the epileptic psychoses. For details of the neurologic and pathologic aspects of this disorder the student is referred to the standard textbooks of neurology.

The psychotic reactions may consist of: A. Periodical ill-humor which may last from a few hours to several days. B. Epileptic dream or twilight states in which there is considerable confusion. C. Delirious confusion with hallucinations and ecstatic delusions or anxiety. D. A "conscious delirium" in which the confusion is slight. This has considerable medicolegal import since crimes such as murder may be committed during the aimless journeys which the patient takes and for which he is absolutely amnesic. E. Epileptic deterioration in which the dementia may become very profound. Many other less well defined psychotic states have been described.

Epileptic furor states following the seizure are extremely dangerous. The patient is maniacal, homicidal, destructive, and a menace to those about him. Many horrible crimes have been explained on the basis of the epileptic furor state. We recall one case in which an epileptic killed his wife and

five children with an axe previous to commitment to a hospital.

Epileptic equivalent states consist of an attack of mental disturbance instead of convulsive seizure. These are frequent but are not apt to approach the violence of the furor state.

Transitory states of depression and excitement also occur.

Paranoid states are common and should be considered among the mental reactions occurring in the epilepsies. The epileptic fugue states, although rare, are of great importance. One patient travelled from New York to London where he worked for a period of six months supporting himself and on "awakening" there was not the slightest realization of leaving the United States or of anything regarding his activities during this prolonged interval.

The course of true epilepsy is chronic and progressive. In children the outlook is better and occasionally epilepsy may cease at puberty. The length of life is somewhat shortened and accidents during convulsions or status epilepticus may bring the disease to an abrupt and fatal termination. Terminal pneumonia is fairly common.

While recovery is scarcely to be hoped for, yet much may be done to ameliorate the patient's sad condition. The personality should be carefully studied and reeducative measures instituted. The occupation must be free from dangers to the patient or to others. Dietary measures have been summarized by Lennox and Cobb in the terse statement "anything that keeps the patient dehydrated, acidaemic, and oxygenated favorably influences the seizures. Constipation must be combated."

Certain anticonvulsant drugs bring about an amelioration of symptoms in many cases. Of these drugs, phenobarbital in daily doses of 1-6 grains has proven most useful. Sodium diphenyl hydantoinate, grains $4\frac{1}{2}$ -9 daily, as developed by

Meinitt and Putman has recently been offered as an efficient form of drug therapy. Its anticonvulsant action is greater than either phenobarbital or the bromides, and it lacks the undesirable dulling, sedative effect of the latter medications. In our hands, the bromides are too delirifacient for safe prolonged use. Patients unimproved by either phenobarbital or sodium diphenyl hydantoinate alone, may respond to a combination of the two drugs.

General hygienic measures, elimination of foci of infection and correction, where possible, of any physical disabilities will also favorably influence the course.

In the face of progressive psychotic symptoms, which are often a menace to the patient and the community, a suitable institution is the only safe haven.

The following case histories illustrates typical examples of patients suffering from this disorder.

Epileptic with Deterioration. *M. S. 22-year-old, white female was admitted to the clinic 7/7/31 with the informant giving the complaint of generalized seizures of ten to fifteen minutes duration characterized by convulsive movements over the entire body, tongue biting, and incontinence of urine.*

The history stated that the first seizure occurred in the setting of the patient's second menstrual period at the age of thirteen and was characterized by a cry followed by loss of consciousness, convulsive movements of the entire body and biting of the tongue. Urinary incontinence was present. The seizures lasted ten to fifteen minutes and were followed by deep sleep until recently when, following attacks, she is wakeful and restless. They occur only at night, are apt to be precipitated by emotional upheavals and are definitely worse at the menstrual period. The frequency of occurrence has increased steadily until, in the past nine months, the patient is experiencing seizures each night. Coincident with the increase in the number of seizures, there has been a

definite personality change chiefly characterized by feeling of jealousy directed toward her mother and her half-sister with whom she is living.

The developmental history reveals a child of normal birth and early development who had pneumonia at the age of two, whooping cough at five and fractured pelvis at the age of eleven years. She attended grade school up to the eighth grade when, at the age of thirteen, she left because of her seizures. Her scholastic record has not been remarkable. Sex instruction is said to have been adequate and menses made their appearance at the age of thirteen without particular fear or embarrassment on the part of the patient. She was married at the age of seventeen and divorced after one year on the grounds of cruelty. A pregnancy by the first husband was terminated therapeutically at four months. She entered on her second marriage at the age of twenty-one but was not living with her husband at the time of admittance to the hospital. There were no pregnancies with this union. The family history indicates that the patient's father was a drug addict and an alcoholic who deserted the family shortly after the patient's birth. It is otherwise negative for associated psychopathology. Upon admission to the clinic, the patient appeared untidy, lay quietly in a semi-stuporous state with a facial expression best characterized by bewilderment and anxiety. She responded slowly to questions and demonstrated decreased psycho-motor activity. The affect was predominantly one of perplexity. She gave evidence of auditory hallucinations, especially of her mother, calling to her to "come home." Vague, ill defined, persecutory delusions were expressed against her mother and step-sister. She was disorientated for place but not for time or person. Both recent and remote memories were grossly defective and her replies to questions concerning facts of past history were chiefly, "I don't remember" "I don't know just exactly." She repeated four digits forward, and reversed

the same number. She was unable to recall the test phrase of six objects after five minutes. Her grasp of general information was exceedingly poor. She was unable to do the 7's from 100 and showed no ability to recall or interpret the cow-boy story. Both judgment and insight at the time of admission were wholly lacking. Physically the patient was of aesthenic habitus, appeared confused and disturbed during the examination, there was a slight amount of post-nasal discharge and blood pressure was 120/80. Notable in the neurological examination, were, sluggish upper and lower abdominal reflexes and hyper-active knee jerks. Laboratory examinations including blood Wassermann, blood bromide and spinal fluid were all negative.

During the seven days hospitalization, the patient continued very much as she was upon admission—confused, disorientated, untidy and semi-lethargic. However, she responded more spontaneously to questions just prior to discharge. She was re-admitted to the hospital 1/25/34, one week prior to which she had become stuporous, difficult to manage and feed. The interval history, between the first and second admission, stated that the seizures had continued and, as before, were increased at the menstrual period. On the patient's second admission, an encephalogram was carried out which revealed marked cortical atrophy. Despite luminal and caffeine medication, seizures continued and the patient was discharged once again into the custody of her parents, later to be admitted to the State Hospital where a recent follow-up note spoke of her as, "unimproved."

DISCUSSION

It is interesting that the first seizure which this patient experienced occurred in the setting of her menstrual period and offers a discussion as to the correlation of epilepsy with sex hormone. The seizures were rather typical with the usual array and sequence of occurrences. Both the general

survey of her social preformance and the sensorium defects would indicate a deterioration which we were able to watch progress between the time of her first and last admissions, a period of three years

CASE 9 Epileptic Furor State. W. R. Thirty-eight years of age

The patient was brought to the hospital in the patrol by eight police officers. Just previous to admission this man had an outbreak during which he began breaking windows with a chair, kicked his brother down the steps and struck his mother several times over the head with a chair, severely injuring her. Later he ran into the yard, picked up an ax, began cutting down the posts of the porch and defied anyone to come near him. He threatened to kill anyone who would try to interfere with him. After a battle the police were able to subdue him and brought him immediately to the hospital.

In this case there is a history of epileptic attacks from the age of ten. The seizures have been occurring at infrequent intervals. During the past few years he has been getting worse and has not worked regularly. The attack on his relatives was unexpected.

The patient showed progressive deterioration. He had two seizures during the first two weeks in the hospital followed by a furor state of several days' duration. Restraint was necessary to control him and he was soon committed. Recent reports state that he continues in the same condition with periods of confusion, violence, and assaultive outbreaks.

CASE 10. Epileptic Equivalent State. E. R. Age 25 years

This patient was admitted to the hospital after suddenly attacking one of his fellow workmen. The suddenness of this attack and the severity of the injury to his associate necessitated the patient's prompt admission to the Psychopathic Ward. The main facts of his previous history showed that he had epilepsy from birth which was said to have

improved after puberty. The boy has had previous outbreaks with no loss of consciousness and recently these periods have been occurring at closer intervals. During the outbreaks he fights with anyone that happens to be near him. At these times he uses abusive language and talks irrelevantly and incoherently. The excitement usually lasts for many hours and is followed by quiet periods.

During the first week of his stay in the hospital the patient had several outbreaks. He attacked an orderly without provocation and it required several people to place him in restraint. On another occasion he picked up a table, threw it against the wall and defied anyone to come near him. He was extremely violent, abusive, surly, antagonistic, and obscene. A diagnosis of epileptic equivalent state was made. Since commitment he has had occasional epileptic seizures and has continued to deteriorate slowly. It has always been necessary to safeguard him and the other patients by placing him on a disturbed ward and sometimes in seclusion. Neither luminal or bromides quieted him, nor did the use of continuous baths.

DISCUSSION

The epileptic furor and epileptic equivalent states are one of the most common causes of wholesale homicide. It is these patients who in a furor are apt to seize an instrument and annihilate an entire family. Perhaps only second to the postencephalitic temper outburst are these cases in their degree of danger to a community.

INHERITANCE OF CEREBRAL DYSRHYTHMIA AND EPILEPSY by

W. G. Lennox, E. L. Gibbs and F. A. Gibbs

Conclusions—Electroencephalographic tracings have been made of the parents, siblings and children of 94 patients who

had both clinical epilepsy and cerebral dysrhythmia. The relatives numbered 183. Tracings were made simultaneously from six areas of the cortex. Definitely abnormal records were obtained in 60 per cent of the relatives of patients and in 10 per cent of a control group of 100 persons who had no near relative with epilepsy. In 55 of the families records were obtained of both parents. In 35 per cent of these the records of both parents were definitely abnormal. In only 5 per cent were the records of both parents unmistakably normal. Dysrhythmia occurred as often among the relatives of patients with so-called symptomatic as among the relatives of essential epileptics. It occurred more often among the relatives of female (69 per cent) than of male patients (55 per cent). Data included five families in which there were similar twins with seizures or dysrhythmia. In each pair of twins there was a similarity of the fundamental rhythm, though seizures in both twins occurred in only one pair.

We believe this evidence indicates that the dysrhythmia of epilepsy is inheritable and that such a dysrhythmia when demonstrable may represent a predisposition to epilepsy or some allied disorder. Although clinical epilepsy is only a Mendelian recessive trait, dysrhythmia may prove to be a dominant trait. Because approximately 2.4 per cent of the near relatives have epilepsy, and approximately 60 per cent of relatives have dysrhythmia, the persons with the predisposition to epilepsy or an allied disorder outnumber actual epileptics about 25 to 1. The incidence of epilepsy is about 0.5 per cent, hence persons with a predisposition form about 12 per cent of the population.

These observations should be of practical value in the prophylaxis and eugenics of epilepsy. They should assist the physician in tracing the descent of epilepsy and in advising patients and their relatives about marriage. The presence of dysrhythmia in both parents was 35 times the expected chance mating of two dysrhythmic individuals.

THIS and other facts emphasize that if a person with epilepsy or with dysrhythmia marries, he should choose a person whose cortical electrical activity is normal.

All the organic reaction types cannot be described in detail. Mental symptoms may occur in association with any organic brain disease. In such conditions as cerebral syphilis, Huntington's chorea, brain tumor and abscess, cerebral hemorrhage, thrombosis and embolism, paralysis agitans, meningitis, multiple sclerosis, tabes, Sydenham's chorea etc., there is likely to be a psychotic reaction which is scarcely specific in type. The diagnostic problem is largely neurological.

PSYCHOSIS WITH HUNTINGTON'S CHOREA

Huntington's chorea is a disease of middle life, progressive and degenerative and is associated with gradual progressive deterioration. Both sexes seem equally affected and heredity is the chief etiological factor as contrasted to Sydenham's chorea in which rheumatism and allied infections play a prominent role in etiology. The pathology gross and microscopic is as follows:

Pathology—(Neuropathology—N. W. Winkelman). Grossly the brain is small (950 G); the convolutions are atrophic with wide open fissures, especially marked over the frontal lobes. On section the cortex is seen to be much narrower than usual; the ventricles are dilated and contain a clear fluid. The basal ganglions, especially the caudate nuclei are shrunken. No other macroscopic findings are to be noted.

Microscopically the piaarachnoid shows a chronic hyperplasia without cell infiltration. No inflammatory infiltrative change is found throughout the brain—on the other hand the changes are entirely of a degenerative character.

The cortex is narrow, with a poverty of ganglion cells, especially in the lower three (3) cortical layers. The ganglion

cells that are present are distorted, sclerosis is a common finding; lipid infiltration and even acute swelling are present. Even the very small ganglion cells show degenerative changes. The glial changes are mainly cellular, glial fibres are but slightly increased. The degenerative products consist of small lipid droplets in the glia protoplasm, with larger particles in the lymph spaces and blood vessel walls. The vessel walls themselves show no marked pathology.

These changes while universal are most marked in the frontal regions. The Betz cells are fairly well preserved in spite of marked changes in the motor zone.

In medullary-sheath stains the generalized atrophy is evident at first glance, especially of the caudate and putamen (striatum). The histology is very similar to that noted in the cortex but of a more severe degree. The status fibrosis of the Vogts is present. The small ganglion cells of the striatum are particularly involved. The large cells while relatively preserved, appear increased because of the shrinkage of the tissue. They are not entirely normal—they stain much darker than is usual. Besides this severe parenchymatous degeneration there is a reactive glial proliferation present. The atrophic tissue is rich in small glial cells; with only very occasional fibre-forming cells. Fat is present in the glia cells and in the perivascular spaces.

The pallidum is likewise small, with loss of the fine fibres, but there is no marked histologic change. The thalamus and midbrain show moderate atrophy. The subthalamic body is small but with comparatively normal structure. The red nuclei, substantia nigra and dentatum are normal.

CASE 11 Huntington's Chorea. *The patient, a 60-year-old white, married, male physician, was admitted to the hospital 1/20/27 with the complaints of nervousness, irritability, involuntary and uncontrolled movements of the extremities, difficulty in walking, talking and feeding himself.*

The onset of the patient's symptoms dated back definitely ten years earlier when, for the first time, he noticed twitching and mild choreiform movements. They did not, however, interfere or handicap the patient until about three years prior to his admission, at which time it was necessary for him to give up the practice of medicine. In addition to abnormal movements at that period, he had difficulty in remembering what he had prescribed for his various patients and had periods of confusion which made him wholly unable to attend them. In the past three years, however, the motor disturbance has become much more exaggerated until now, only with difficulty is he able to feed himself and his speech is impaired. For six months prior to his admission to the hospital, the intellectual deterioration has been rapidly progressing and his association with more obvious personality changes characterized by irritability and frequently explosive outbursts of temper. There is no pain, he is constipated and his general physical condition during the development of this disease process has remained fairly satisfactory. The patient was of normal birth and development and denied evidence of neuropathic traits. He had malaria in his youth and was a victim of influenza in 1918 though the attack was exceedingly mild. He successfully completed his early education and later graduated in medicine at the University of Michigan, following which, he taught pathology in a state medical school. In 1905 he embarked upon the private practice of his profession in which he has been engaged successfully until the onset of his illness in 1924. His interests were of outgoing, social nature and his personality affectionate, peaceful, pleasant and congenial prior to the present difficulty.

Of importance in the family history is, a mother who died at a state hospital, a morphine addict with chorea resembling the patient's, at age 68; a maternal aunt who also had chorea for a number of years prior to her death and a niece who,

though living, had experienced two attacks of chorea—one at twelve and one at nineteen. Physically, he had twitchings of the face muscles, general restlessness, involuntary choreic movements, peripheral sclerosis, a soft systolic murmur at the apex transmitted through the axillae, an accentuated aortic second, blood pressure 168/80 and rales at the base of each lung. The neurological examination revealed jerking ataxic gait, exaggerated deep tendon reflexes in both upper and lower extremities, absent abdominal and cremasteric reflexes, a positive Babinski on the left, a right ankle clonus, decreased motor power on the right, senile atrophy of the calves of the legs, marked tremors of the fingers, tongue and facial muscles, decreased pain, touch and temperature sense and lack of coordination in both upper and lower extremities. Urine and blood studies were not remarkable. The spinal protein was 35, sugar 66, Wassermann negative and the colloidal gold curve, 0111321110.

Upon admission, the patient showed extensive choreiform movements involving both extremities and face. At times, he let out an inarticulate cry or grunt and appeared very silly. His talk was slow and indistinct and difficult to follow. The predominant mood was that of depression and he had paranoid trends directed against his environment and his wife. These were transitory and from time to time he recognized their absurdity. No evidence of hallucinations in any sphere were elicited. He was disoriented for time and place, and his memory showed discrepancies for both remote and recent events, though for the latter it was more marked. He was unable to do the simplest calculation, both retention and recall were most unsatisfactory, though former judgment was fairly well intact and the patient realized that he was suffering from Huntington's chorea.

DISCUSSION

A fairly typical case of Huntington's chorea has been presented. The emotional changes—irritability, changes

in sensorium, and prominent paranoid ideas are very frequent and progressive dementia occurs. The pathology is definitely associated mainly with a chronic degenerative process of the caudate nucleus and putamen.

PSYCHOSIS WITH BRAIN TUMOR

Psychoses with nervous disease occur in a great variety of conditions such as cerebral hemorrhage, embolism, and thrombosis, paralysis agitans, multiple sclerosis, meningitis. They do not differ markedly in symptomatology—the definite findings of an organic reaction, usually progressive in type, are present in varying degrees. In general it may be remarked that the mental symptoms associated with organic brain disease, are scarcely ever specific and diagnostic.

CASE 15 Psychosis developed immediately after operation to remove tumor from the left cerebellar hemisphere. Final commitment to a state hospital.

July 19, 1917, the patient first complained of intense headaches and dizziness. This was followed by vomiting attacks, projectile type, in October, 1917. Later it was observed that he was markedly unsteady in walking. He complained constantly of vertigo. In April, 1919, the patient noticed deafness on the left side and about the same time he developed transient attacks of double vision and blurring of objects. The above symptoms grew progressively worse until July, 1919. He staggered from side to side like a drunken man and he ran into people passing on his left. Two weeks before admission whistling and buzzing sounds began to trouble him. The deafness on the left side became complete. His relatives noticed some twitching of the left face. A subjective feeling of a drawing down and out of the left eyelid was present.

The family history and personal history are relatively unimportant.

The physical examination before the operation was summarized as follows. Subjective feelings of dizziness, headaches in

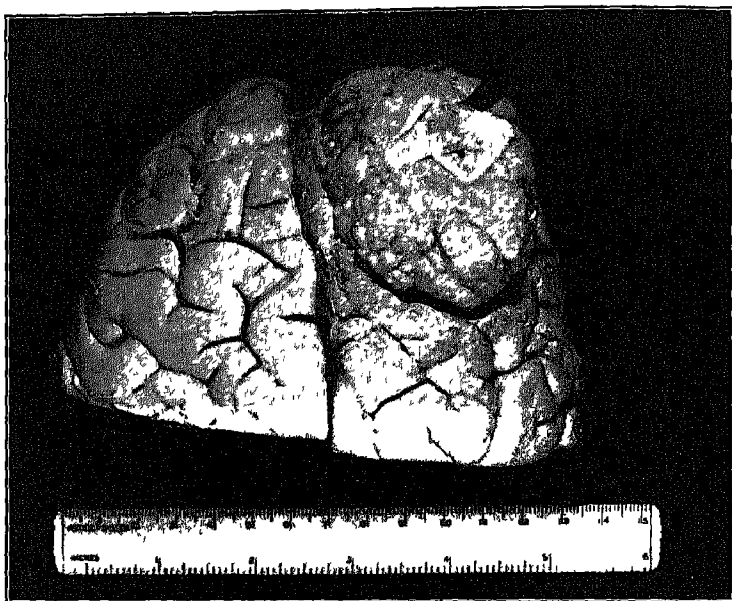


FIG 23

Case 12—B S Age 44 Admitted to the Hospital March 20, 1925 Died April 1, 1925 History of memory defect during the three years before admission The patient had shown marked emotional instability, at times was very antagonistic towards her husband, and complained of headaches and dimness of vision She had projectile vomiting before admission Examination revealed the classical findings of increased cranial pressure, papilloedema on the left side measuring 7 diopters, optic atrophy on the right side The total protein of the spinal fluid was 85 Other laboratory findings were negative The patient was disoriented and showed marked discrepancies of memory for both recent and remote events She had characteristic Witzelsucht, was very facetious and euphoric—"everything is going along fine Doctor." Ventriculograms showed that there was no air in either anterior horn X-ray findings were those of increased cranial pressure with erosion of anterior clinoid process Clinical diagnosis, right sided frontal brain tumor and exploratory operation advised The patient developed progressive stupor and a series of convulsions, dying before the operation The autopsy confirmed the clinical diagnosis—a large meningioma which involved the frontal pole. This tumor belonged to the endothelioma group and represents the most favorable type of tumor for enucleation.

the occipital region, nausea, deafness, buzzing noises in the left ear, left facial weakness, and subjective numbness over the left cheek There was a slight disorder of the sense of smell Oil of cloves was not named Extra ocular move-

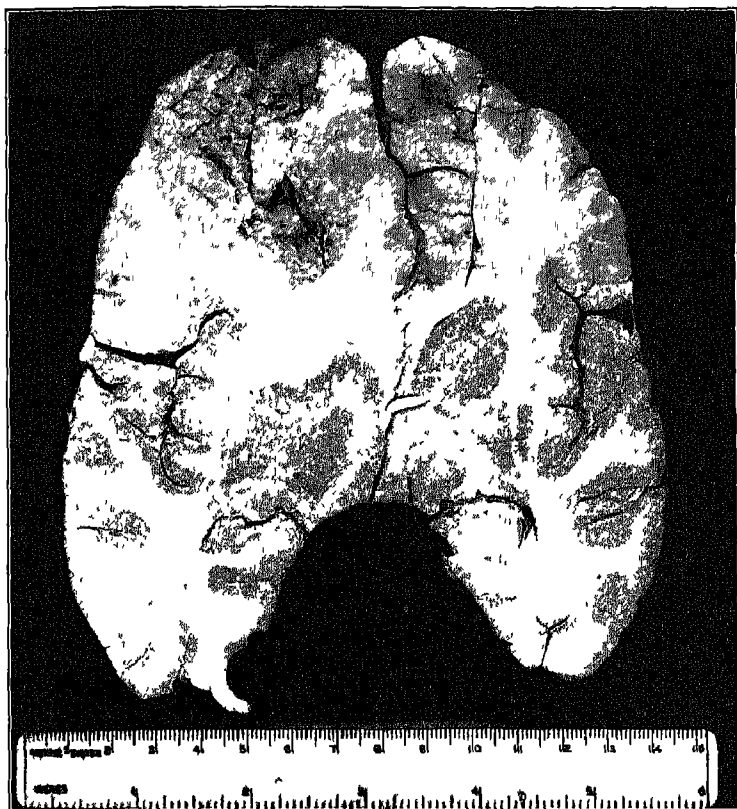


FIG 24

Case 13 —J A Age 49 Admitted February 5, 1926 Died February 8, 1926 The patient was arrested for stealing supplies from the store in which he was a salesman While in jail he had a convulsion The history was that beginning in September, 1925 he complained of headaches and developed vomiting without nausea After this he was very irritable and quarrelsome with his family and former friends He made numerous mistakes in his store work He was also facetious on many occasions and said that it was not necessary for him to see a doctor as everything was going along so well. He showed poor judgment and spent most of his savings on foolish purchases Examinations in the hospital—patient was stuporous at the time of admission following generalized convulsive seizures He showed a marked papilloedema on right side measuring 5 diopters with beginning optic atrophy on the left side A grasping and groping reflex was present especially in the right hand Paresis of the left side was present and the reflexes on this side were diminished. A left sided Babinski was present Total protein in spinal fluid 75—other findings in blood and spinal fluid were negative The patient

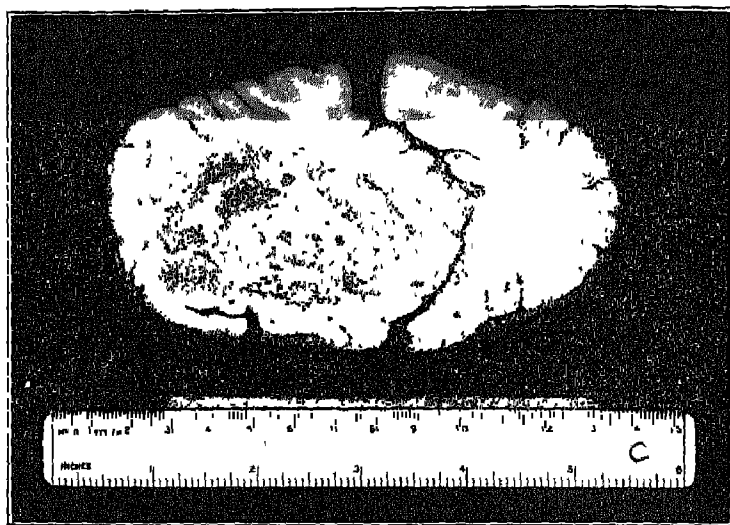


FIG. 25

Case 14 —F. J. Age 46 Patient was admitted to the hospital March 23, 1927. Died April 1, 1927. At the time of admission she was totally blind, was aphasic, incontinent and bedridden. It was striking that during her illness in the hospital she showed a tendency towards elation, said that her health was fine, expressed pleasure that the other patients on the ward were getting along so well. She stated that she had had some difficulty because of the impairment of her vision and felt more or less alone since she became blind. At times she was very facetious and in general was unconcerned about her condition. The patient showed marked fatigability in the sensorium tests with extensive discrepancies for recent memory. The neurological examination summarizes as follows: there was a horizontal nystagmus present, the pupils were unequal, the left being larger than the right. Neither reacted to light or accommodation. There was edema measuring 3 diopters and complete optic atrophy. There was a paresis of the right external rectus muscle present. Reflexes absent with a weakness of the entire right side. Efforts for a ventriculogram were unsuccessful. Trophic bed sore developed. The patient passed into a stupor and died April 1st, 1927. Diagnosis of left frontal brain tumor was made. This was confirmed at autopsy when the above glioma was found. Histological studies confirmed the diagnosis of a glioma undergoing cystic degeneration with hemorrhage.

was admitted in a terminal delirious state and generalized convulsions continued. Coma continued and death occurred three days after admission. The X-ray findings were those of increased intracranial pressure. Clinical diagnosis left frontal brain tumor was made and autopsy revealed a large infiltrating glioma undergoing cystic degeneration involving the left frontal pole.

ments showed double abducens weakness Horizontal nystagmus was present The pupils reacted to light and contracted on convergence Choked discs were present There was a small area of anaesthesia on the left cheek and slight facial weakness noted on the left side The hearing on this side was present only with B C 158 and B C 256 tuning forks. On the left side there was slightly diminished strength, awkwardness in handling objects, hypotonicity, adiadocokinesis and past pointing to the left

X-ray showed engorgement of the cranial vessels A diagnosis of cerebellar tumor on the left side was made The patient was operated upon September 18, 1923 On laying open the dura over the left cerebellar hemisphere the convolutions were found broadened and flattened, pale yellow, and less vascular than on the right. At a depth of 4 cm a cyst of grape size was found and removed Other cysts were palpated nearer the brain stem A tumor weighing 30 grams was removed together with cerebellar tissue weighing 27 grams Following the operation the patient developed a psychosis with marked confusion, disorientation, and feelings of unreality This necessitated his transfer to the Psychopathic Hospital, November, 1918

At this time the patient complained of no urgent discomfort. His headaches had disappeared but in addition to the early symptom of hearing defects there was an increased numbness of the left cheek and inability to move the face on that side

The patient showed no marked abnormalities of behavior, stream of speech, or activity There was emotional instability present as shown in his excessive irritability on the slightest provocation and his tendency to overreact to all stimuli. No delusions or hallucinations were elicited The patient was completely disoriented, frequently giving the date as 1916 He was unable to tell the events of his life in correct sequence Many discrepancies were noted

in recent memory He could retain only five digits He failed to retain after one minute an address given him. He could not repeat correctly the "cowboy story" Faulty grasp of general information. Poor calculation Speech defect was present Poor judgment and insight.

During the stay in the hospital there was no marked change in his condition. He became more confused, irritable, and had agitated periods when he was extremely troublesome on the ward He often walked about hunting for his bed and misidentified the other patients as former acquaintances The disorders of the cerebellar defect continued to be present and can be grouped under the following heads.

Hypotonicity
Asthenia
Dysmetria
Asynergia
Attitude and gait

Patient died two years later Autopsy revealed large glioma of the left cerebellar lobe

TRAUMATIC PSYCHOSIS

We may consider as part of this group those cases which are seen as (1) deliria connected with the trauma, with or without additional alcoholic or senile basis; (2) amnesic hysteroid states usually with limited retrograde and antero-grade amnesia, (3) the post-traumatic constitution manifested by easy reaction to alcohol, grippe, etc, or more lasting vasomotor neurosis (headaches, congestions), or types with explosive diathesis (irascibility), types with hysterical or epileptoid episodes with or without convulsions, and types of paranoid development Further, (4) the traumatic defect conditions, such as aphasia, asymbolias or secondary deterioration in connection with epilepsy, or

(5) terminal deterioration due to progressive alterations of the primarily injured parts with or without arteriosclerosis

CASE 16. Post Traumatic Psychosis. *E C., a 51 year-old white male entered the clinic 12/6/34 The complaints of his family were, "He got hurt in an automobile accident October 18th. The doctor said he had a fractured skull and concussion. Since then he has been confused He has turned against me (wife) Thinks that I am bothering him. He is afraid and irritable He has threatened to kill us."*

"There is a complete change in him since the accident. He is slowed up a lot Hard to manage. He gets an idea in his head and you can't change it He sleeps more than he used to He has lost thirty pounds in weight since the accident He seems a different man "

The onset of the mental difficulty dated back to October 18 when the patient was injured in an automobile accident He remained unconscious twenty four hours. Was taken to a hospital where he remained three days, following which he was removed to his own home He remained in a semi-conscious state about three weeks. On November 19th he seemed brighter, said he was hungry and wanted to eat He seemed however, different He was less tidy about his personal appearance He could not think rapidly His gait was unsteady and he had lost weight He assumed an elated attitude although he was very changeable, irritable and showed marked emotional swings His talk was rambling and incoherent. By late November he could not be managed at all because of the marked irritability and stubbornness He was complaining of severe headaches, was exceedingly restless and wanted to be on the go He refused to eat, thought his family were trying to get him out of the way and threatened his wife with a gun. On one occasion, just prior to admission while riding with a friend, he refused to allow the man to return to his home with the consequence that they drove a considerable distance into

New Mexico. He had a complete amnesia for the accident in October

The patient was a Syrian by birth, of normal development. He came to this country at the age of fifteen, had an eighth grade education in Syria and spoke seven languages prior to the accident. His vocation was trucking which he carried on with a good deal of success. He had been married twenty-one years, there were seven children and the marital situation had been satisfactory. He was by disposition a good mixer, sociable and optimistic. There have always been mood swings and at times the patient is gruff and abrupt.

Upon admission the patient was confused and bewildered. His attitude was predominantly one of elation though he showed marked emotional instability and rapid mood shifts. He demanded his immediate release and threatened the hospital with law suits. He said he had never been in an accident, that it was just talk. Though his talk was relevant and for the most part coherent his productions were influenced by the sensorium defects. His chief preoccupations consisted of feeling of persecution. He believed his wife and children had turned against him and he had threatened to kill them for his fancied beliefs. Hallucinations were denied. He was disoriented for time and person. There were minor defects in the past memory but recent memory was most sweepingly affected. He retained five digits forward, reversed three but was unable to recall any of the test phrase after three minutes. His calculation and general information were poor. Judgment was lacking and the degree of insight is shown by his statement, "No sir, I know nothing's wrong. I know my mind is as good as anyone here or any lawyer."

Physically the patient was a well developed male of pyknic habitus. There was a stellate scar extending from the middle of the forehead to the hair line and about five inches

long. A second scar was found above the left eye. There was an internal strabismus of the left eye and a cloudiness of the left lens and upper part of cornea. Both discs were white. The heart was boot-shaped and the aortic second accentuated. Neurologically, all deep tendon reflexes were exaggerated and there was some decreased motor power in all muscle groups.



FIG 26 —Marked displacement of both lateral ventricles to right from pressure on the left. The left ventricle is displaced downward. There is an extensive arachnoiditis bilaterally.

The urine showed one plus albumin and one coarse granular cast. Blood studies were not remarkable. The blood Wassermann was negative while spinal fluid was under 300 mm. pressure, Quackenstadt 430 mm., and it showed a negative Wassermann, protein of 30, colloidal gold curve of
OOOIIIOOO

An encephalogram (Fig 26) showed that "Both lateral ventricles were filled and rather large. There was almost

complete obliteration of cortical pathways, frontal area excepted, suggestive of changes due to old pachymeningitis. No evidence of cortical atrophy."

It was felt after neurological consultation that an old hemorrhagic pachymeningitis was present and surgery was

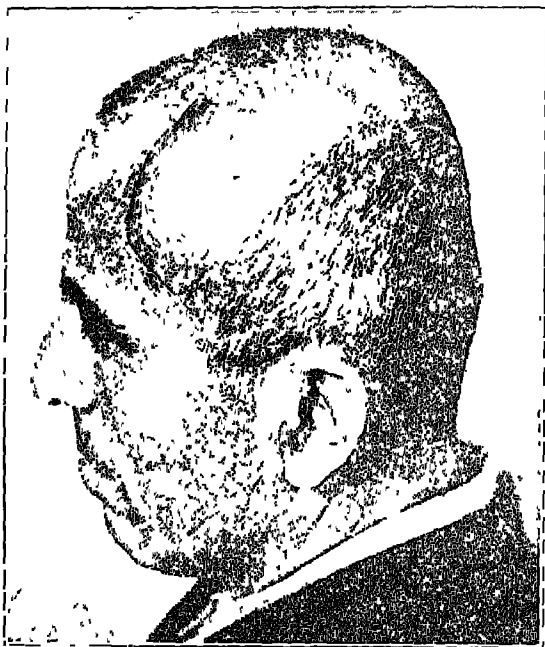


FIG 27 —Note scar and post-operative cortical bulging

advised. A second stage operation followed in which a large pachymeningitis cyst—"extending from the foramen spinosum below to the base of the anterior fossa anteriorly, mesially to the superior longitudinal sinus"—was removed.

The post operative course was uneventful and two weeks later the patient was discharged to his son. Since that time he has returned to his trucking business with fair degree of success. He continues to be irritable and forgetful,

but his persecutory delusions and physical complaints are much less prominent .

DISCUSSION

This is a fairly typical case of post-traumatic dementia as shown in the total change of general behavior and character with extreme reduction of mental capacity and ability. Frequently these cases may show aphasic and apraxic symptoms. Epileptiform attacks are seen as well as the development of cerebral arteriosclerotic syndromes. Negative x-ray findings are frequent in this condition. The pathology may be explained on a basis of definite injury to the brain substance with cerebral edema.

CASE 17. Traumatic Delirium. *The patient E. R., a 17 year old white male was transferred to the Psychopathic Hospital from the General Hospital where he had developed an active delirium.*

Eleven days prior to his transfer the patient was injured in a motor cycle accident which rendered him semi-conscious. After local treatment in a physician's office he was taken home when two days following the accident he developed the first expressions of confusion and delirium. Because of the difficult nursing problem he presented in the home he was brought to the General Hospital for treatment.

The developmental history is that of an essentially normal youth with no early neuropathic traits, a junior high school education, who has been actively engaged in farm work during the summer months. No outstanding illness characterizes the past history.

The family history reveals one maternal uncle, a mental defective.

Upon admission to the General ward prior to the transfer to the Psychopathic Hospital the patient was "very uncooperative, wildly delirious, requiring restraint to keep him in bed, very profane and crying continuously for water."

The right eye was swollen and bruised. The pupils were small, irregular and reacted sluggishly to light. The optic veins were engorged. Dried blood filled the canals of the ears bilaterally. The teeth were covered with sordes and the tongue was coated and dry. The neck was somewhat rigid and provoked pain when moved passively.

The spinal fluid was under extreme pressure and bloody.

Because of the diagnosis of skull fracture the fluid intake was reduced to 800 cc. in 24 hours, intravenous glucose 25 cc of 25% was administered every 6 hours and magnesium sulphate 25 cc of 25% solution was given per rectum every eight hours. With daily lumbar punctures the spinal fluid became blood free on the eighth hospital day, but the patient continued to be excited and threatening, hence transfer him to the Psychopathic Hospital.

Upon arriving there he appeared drowsy, irritable and refused to talk. He wandered confusedly about his room. He was untidy and indifferent to his surroundings. There were no apparent delusions or hallucinatory experiences. He was oriented to place and person but not to time. Gross recent memory defects were elicited and he had a complete amnesia for happenings prior to hospitalization. Past events of his life were readily recalled. Retention and recall were effected and he could not recall even four digits forward and no part of the test phrase was recalled after three minutes. Calculation was attempted with retardation and numerous errors. Reading seemed intact but the patient had no appreciation of his confusion.

Two weeks after admission the patient had become much more cooperative but spoke rather poorly and appeared to be confused at times. His amnesia continued. A week later he appeared to be essentially normal. He was pleasant and quiet and was gotten out of bed. Partial amnesia remained but he remembered things more clearly. He had insight into his experience, but still showed sluggish psycho-

motor activity At the time of his discharge 45 days after admission the sensorium defects had cleared completely and all evidence of delirium had passed.

The patient returned to the clinic one month later for a follow-up interview and was said by the informant accompanying him to have resumed his pre-accident level of performance

DISCUSSION

Typical traumatic delirium is usually occupational in type. The period of amnesia following the accident is characteristic of these cases Cerebral concussion and edema could well explain the mental condition Traumatic sequelae are of interest especially in children and are characterized by what is termed traumatic constitution In these cases there is a marked change in the general character, extreme emotional instability and fatigueability, headaches, and a hypersensitiveness to alcohol Many cases develop paranoid delusions as well as epileptoid and hysteroid symptoms.

Psychoses are often precipitated by head injuries especially in general paresis, manic depressive, and paranoid reactions

Treatment of the traumatic psychoses consists in:

A Expectant Palliative Treatment. All measures to prevent shock Absolute rest Quiet Spinal fluid drainage on admission often of value Careful aseptic technique of all lacerations of the scalp

B Operative Treatment. Depends on neurological findings. Marked intracranial pressure seen on careful ophthalmoscopic examination and evidence of hemorrhage require immediate treatment. Charts of pulse, blood pressure and spinal fluid pressure should be kept Signs of gradually increasing pressure shown in a lowered pulse, and respiratory rate and an increase in blood pressure with papilloedema indicate the need for an immediate decompression.

EPIDEMIC ENCEPHALITIS

The sequelae or manifestations of chronic encephalitis of lenticular type have been of great interest and help to clear up many clinical pathological facts concerning paralysis agitans. Many types of encephalitis have been reported.

In a study of thirty successive admissions of encephalitis we have been impressed by the fact that the previous personality make-up may indicate the type of mental disturbance present. Of this group eight were of the manic type individuals with a typical manic personality make-up (Choreiform movements were very marked in some of these manic cases, especially at the onset of the disease). There were six typical depressions, two of whom made suicidal attempts at the beginning of their illness. Of the remaining sixteen, nine showed the psychoneurotic personality. Some of this group were diagnosed as hysteria by private physicians. The remaining seven have progressively deteriorated and showed definite organic findings especially in the loss of mental ability and capabilities, due to marked memory and judgment defects.

Acute epidemic encephalitis may be said to compete with neurosyphilis in the variety of its clinical forms and sequelae. Depressions, hysterical syndromes of various descriptions and mental deficiencies have also been noted as sequelae of this disease.

Pathology —(Neuropathology—N. W. Winkelman) Grossly, aside from a moderate congestion there are no abnormalities.

Microscopic examination of sections taken from all areas of the cortex, the basal ganglions, the midbrain, pons, medulla cerebellum, and spinal cord is as follows.

The pia-arachnoid is slightly infiltrated with round cells, mainly of the lymphocytic and plasma cell variety, about



FIG 28.—Photograph of sections from a case of encephalitis epidemica. A Area from pons showing perivascular infiltration and scattering of round cells throughout parenchyma. Homogeneous ganglion cells (H and E stain). B Area from substantia nigra showing increase in round cell nuclei throughout, perivascular collaring of vessels and almost entire absence of melanin containing cells.

equally represented and especially numerous around the vessels. The vessels themselves are distended with blood.

The cortex cerebri shows congested vessels but without evidences of endothelial proliferation or perivascular infiltration. An excess of glia cells may be seen in certain areas at times, but these findings are not constant.

The ganglion cells for the most part stain uniformly, without Nissl bodies—some cells are more severely involved—some even show advanced neuronophagia. In the deeper cortical layers satellitosis is a common finding.

The *basal ganglia* show the above parenchymatous changes to a marked degree, but there are also severe interstitial changes consisting of intense perivascular infiltration mainly of lymphocytes and plasma cells, confined at times to the Virchow-Robin spaces but at other times flowing over into the tissue substance. In places it can be made out, as in the region of the substantia nigra, that the tissue itself is invaded by these cellular elements.

The midbrain, pons, and medulla show the same changes as in the basal ganglion—being more severe in the midbrain than in the pons or medulla. No hemorrhages can be made out nor are there areas of softening or polynuclear infiltration. The spinal cord itself aside from congestion and slight changes in the anterior horn cells is normal.

CASE 18 Post-encephalitis. *V. W., a 15-year-old white girl was admitted to the hospital 11/25/29. Her family complained that she saw double, threw herself about in bed and was very profane.*

On 10/1/29, the patient vomited, fainted, became very drowsy and was put to bed. 10/2/29, the left eyelid drooped and she saw double. The right arm became very weak and she encountered difficulty in swallowing. Though stuporous, she could be aroused and spoke intelligently when awake. The stupor deepened, however, with the rising of temperature to 104.5° and she slept for approximately three weeks.

after which time, she roused but had a marked speech difficulty, threw herself about in bed and had convulsive jerkings of all extremities. She talked constantly but clearly. On 11/22/34 she began to speak disconnectedly, cursed, laughed, the twitchings were worse and she became increasingly excited. The family physician was called but the patient failed to respond to the usual sedative measures and was removed to the hospital. The patient was a full term baby, was normal in development. There were the usual childhood diseases but no susceptibility to upper respiratory infections. Neuropathic traits were denied. She had an eighth grade education and for two years had been employed at a local business house. She was a popular, out-going, sociable girl who had always been considered well adjusted and of average intelligence. Family history failed to reveal an associated psychopathology.

Upon admission, she tossed to and fro in her bed. She struck out aimlessly and convulsively with all extremities. There was ptosis of the left eye lid and occasionally tics played over her face. She attempted to cooperate. There was difficulty in swallowing. Speech was coherent, relevant, clear and spontaneous. There was no alteration of psychomotor activity. She was very irritable at times and explosively vulgar. "Damn you! Why are you asking all of these questions? No, I didn't mean to say that. You like me, don't you and you know I didn't mean it." No special preoccupation or distortion of content were elicited. Lack of attention made it difficult in examination of sensorium but both recent and remote memory seemed intact. She was oriented for person but not time and place. Calculation, retention and recall could not be done because of lack of cooperation. General information was fair but judgment and insight were lacking. Physically, she presented the ptosis of the left lid. Her uvula deviated slightly to the left. There was some flattening on the right side of the face.

The right muscular power was weaker. There was a positive Babinski bi-laterally, while the Gordon, Oppenheim and Chaddock gave an extensor response.

Urine and blood examinations threw no light on the case. Spinal fluid had five cells. Protein of 35, sugar of 59. Negative of Wassermann and gold curve. There were no growths in the spinal fluid cultures after 72 hours.

In the course of hospitalization of five weeks, the patient responded to warm, wet packs, and sodium salicylate. She became more alert, cooperative and was able to care for her personal needs. The swallowing difficulty persisted and was more marked in the handling of solid food. Occupational therapy was a valuable adjunct to treatment and was utilized in an effort to create interests that might be followed at home. Though markedly improved at discharge, she continued to be emotionally unstable. She returned to the out-patients' department for follow-up advice and treatment over a period of one year, during which time she made the front page of a local newspaper with the startling story of having been abducted and raped, investigation, of which, proved to be purely fictitious. She was again admitted to the hospital 12/22/32 (three years after her first admission) when she became difficult to manage at her own home. It was felt by her family that she had undergone striking personality changes; whereas, prior to her illness she had been cheerful, pleasant, slender, she had now become irritable, moody, obese, stubborn and emotionally unstable. Complicating the personality change was the appearance of "shaky spells" which were uncontrollable and lasted from a few seconds to a few minutes. There was almost constant unmotivated crying and the patient would scratch herself continually. The mental age on second admission according to Binet-Simon intelligence test, gave her a mental age of thirteen years and one month in contrast to the chronological age of nineteen years.

and two months. Physically, there were no changes over the first admission save for the obesity.

Because of the overt anti-social behavior demonstrated by the patient, it was thought best to commit her to the State Hospital where she went and remained for a period of nine months.

Four years after her discharge from the State Hospital, she was again admitted to our clinic where she began to experience convulsive seizures characterized by abnormal movements on the left side of her body and loss of consciousness for a few minutes. The seizures occurred frequently over a period of about five days after which she was free from them for several weeks. They were somewhat controlled by luminal. There was no essential change in the mental status findings. She was returned to her family to continue the prescribed luminal therapy and followed by our out-patients' department. To date there has been no need for further institutionalization.

DISCUSSION

This case represents a post-encephalitic behavior change which is exceedingly common in this type of disorder. The post-encephalitic behavior disorders in children are of greatest importance in their relation to serious delinquency. Children previously well adjusted often show a total change in character and disposition after an attack of this disease. There is marked emotional lability and hyperkinesis, often uncontrollable, associated with sexual precocity. These children are unable to get along in school and indicate the need for special consideration and study and research. Such children do not react to discipline and commitment seems to us unjustifiable. At present these manifestations of epidemic encephalitis in children present an imperative and involved community problem.

BEHAVIOR DISORDERS FOLLOWING EPIDEMIC
ENCEPHALITIS IN CHILDREN

The physician should be on the alert for the behavior disorders secondary to epidemic encephalitis and severe head injury, which may result in a traumatic encephalitis. In children both of these conditions and particularly the former, may produce a definite change in behavior; extreme disobedience, open defiance of all authority, running away from home, lying, stealing, teasing and cruelty, sexual delinquencies, violence and criminality. In the majority of instances the intellect *per se* is intact, though there is easy fatigue of attention and motor restlessness. A long period of re-training and re-education under standardized conditions is the chief therapeutic hope.

The treatment of behavior disorders after encephalitis is of importance in itself and also offers hints to the management of a considerable amount of bad behavior in children which is associated with other physical diseases.

The aim of treatment must be to prevent the bad results which unfortunately have been shown in thousands of cases. These results have a curious similarity, a common stamp, even though the children have been brought up in countries far removed from each other in customs. Boys stay up all night, play truant, fight, get into dangerous mischief, steal and are headed straight for prison. Girls run away for excitement, are fearless in defying all authority and become sexual misdemeanants. Both show a demoniacal ability to disorganize schools, families and neighborhoods and fail to respond to appeals or punishment. Nevertheless the children may remain intelligent, affectionate and often very likeable.

The time for a physician to start treatment is in earliest convalescence. As the child improves from the physical illness he should say to the parents. "You must make up

your minds to train this child over again. The child will be irritable, restless and will seem to have wilfully forgotten his good habits, you yourself will be tired and busy, but you must keep yourself from getting angry and stick to a long and well thought out policy of re-education. You can't let your sympathy lead you to spoiling the child, but, on the other hand, you must realize that punishment makes things worse. Try to keep the child well rested, well nourished and well occupied, keep other children away. As the child gets stronger fill every minute of the day with interesting things—lessons, gymnasium work, games, manual training." This is asking a lot of the parents but it is saving them trouble in the long run. The family is really fighting for its own happiness as well as the welfare of the child.

Better than home endeavors, which are extremely hard on the other children of the family, is a small class of children of the same age under psychiatric supervision. Such a class is described in the *Atlantic Medical Journal* of March, 1927. It would be well for physicians to support any project to establish such classes in nearby mental hospitals.

In case the child is left feeble-minded by encephalitis, which is not a common occurrence, commitment to a suitable institution should be advised, as no home treatment is of any use. (Bond)

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CHAPTER V

DELIRIOUS—HALLUCINATORY REACTIONS

(Predominantly—"Toxic Psychoses")

Reactions of Delirium, more commonly alluded to as the "Toxic Psychoses" are psychotic episodes resulting from various toxic states of the body. They are said to constitute approximately 10% of all psychoses. Such a statistical statement is notably misleading when it is realized first that the toxic psychoses are not frequently admitted to psychiatric hospitals; second, that not nearly all such reactions are on statistical file, since they are frequently considered only incidents in the course of intercurrent illness; and third, that they are undeniably the most frequent types of psychoses seen and treated in general practice. The physician in general or special practice, who does not understand them thoroughly, in their etiology, diagnosis and treatment is seriously handicapped.

GENERAL CONSIDERATIONS

In certain fever states, intoxications and brain disorders, usually accompanied by edema of the central nervous system, the patients show a similar general symptom complex and characteristic, reversible brain changes. The symptoms are characterized by

1. Hallucinatory fancies that may be dream-like but more frequently of a fearsome or worrisome nature, and
2. Disorientation in one or all spheres—at least a tendency to misinterpret the situation due to a haziness or scariness.

The term *delirium* is used in designating these conditions with cloudiness and haziness of consciousness and dis-

orientation, and, the term *hallucinosi*s is used when haziness and scariness occur without disorientation

In this exposition, the terms *delirium* and *hallucinosi*s are used to denote those states due to exogenic and endogenic, but non-mental factors (i.e., not psychogenic) and characterized by a disturbance in orientation and clearness of consciousness, occurring along with a scariness or fearfulness, suspicions which are not clearly dependent on personal complexes; and frequently accompanied by neurological features such as tremor, ataxia, and slurring of speech.

Delusional states, such as the paranoiac and paranoid ones, which may have clinical features, quite similar to those above mentioned, and therefore which may have to be considered in the differential diagnosis, are more clearly personality and complex determined, and, usually are devoid of the neurological and toxic signs common to the deliria. Then too, there are transition forms which make it impossible to draw sharp differential lines between the two types of reactions. For instance, "toxic" states may occur with few or no somatic symptoms and with apparently clear paranoic development; while on the other hand, the complex determined, and the primarily more mentally determined disorders, occasionally occur with disorientation, bewilderment and appear really sick and toxic. Therefore, the physician must bear constantly in mind that the total picture has to be ever considered in determining whether a "delirious reaction" is "toxic" determined or is incidental to a more sweeping personality and psychobiologically determined disturbance.

Since it is not feasible to discuss all the delirious reactions, it becomes quite important to understand their common phenomena

1. *Etiology* is definite, usually occurring on a basis of

(a) Direct intoxication by exogenous poisons such as alcohol, morphine, bromides, the barbiturates, etc

- (b) Somatic diseases producing fever reactions and exhaustion, particularly the acute infectious diseases (very prominent in children and elderly individuals)
 - (c) General inadequate or mal-support of the central nervous system (particularly the brain) such as are prone to occur in various metabolic and endogenous disorders (examples —hyperthyroid states and cardiac decompensation conditions)
2. The *mental reactions* are usually those of an acute delirium, characterized by behavior disorders based on
- (a) Drowsiness or clouding of consciousness
 - (b) Deficient grasp and orientation
 - (c) Dream-like or nightmare-like imaginative experiences when awake, with a tendency to misinterpret the situation, in keeping with haziness and scariness
 - (d) Hallucinations or fancies of
 - 1. Sight
 - 2. Hearing
 - 3. Tactile sensibility
 - 4. Position
3. The physical findings are always important and are usually indicative of a definite toxic, infectious, mal-nutritional or metabolic disorder. Fever, leucocytosis, loss of weight, and exhaustibility are particularly prominent features. *Neurologically* Tremor, incoordination, reflex excitability, asthenia, ataxia, slurring of speech, and evidence of cerebral edema are common findings. Frequently skin eruptions, gastric secretion changes, blood chemistry abnormalities, evidence of alcohol or drugs in the blood or urine may be important features
4. The prognosis is good. Deliria are usually of relatively short duration and rarely leave any residuals

- 5 The treatment follows the line of the therapeutic principles of internal medicine, plus those based on an appreciation of the more psychobiologically determined features of the state

FINDINGS IN THE DIRECT EXAMINATIONS

General Behavior. The delirious picture may be varied, but practically always presents evidence of a real intrinsic disorder. The patients objectively appear confused and show evidence of ill-adapted consciousness and more-or-less dreamy fancies with para-activity. There may be on the one hand quietude with muttering and on the other great activity with raving. The patients are extremely apprehensive, scarey and show marked restlessness. At times they go through various movements signifying certain occupations (occupational delirium). They appear bewildered and confused. There may be objective evidence of hallucinations existing, such as the dusting off of the bedding, picking up imaginary "bugs," covering the nose to ward off "odors," cocking the head "to listen," and answering back the voices. In general, the behavior of these patients is in keeping with their hazy orientation, apprehension and fear, and the drowsy imaginations they experience.

Stream of Talk and Activity.—Speech is usually irrelevant and incoherent. Spontaneity may be varied,—depending on the content.

Mood—The mood is markedly labile, usually "transitive" or impure in type,—i.e. one of apprehension and fearfulness in reaction to the hallucinations and delusions present.

Special Preoccupations and Content—*Delusions* are prominent, and particularly the delusions that they are to be harmed or killed. Usually the delusions are shifting and transient and are based to a great extent on the tendency to misinterpret the situation and happenings therein. Persecutory trends are often found. *Hallucinations* are

extremely common, particularly of the visual type, such as animals of all descriptions, distorted faces, etc. Auditory hallucinations occur, especially in more advanced states, certain types of exogenic deliria, in cases with a hyperacousia, etc. The patients hear voices calling them names, telling them something dreadful is about to happen, or as in the alcoholic psychoses, they may hear lewd appellations. Tactile hallucinations are very frequent occurrences. The patients feel sensations over the body which they are prone to misinterpret as being due to bugs or worms crawling, etc. On the other hand, a lack of sensibility may falsely indicate to the sick patient that a leg or arm is missing.

Hallucinations of smell may occur, and not infrequently this is apt to be the case in personalities in which there is present a rather large latent homosexual component. Illusions are frequently present.

Sensorium and the Intellectual Resources.—Disorientation for time, place and person, or at least one of the three occurs in the delirious patient. Likewise, memory and retention defects are present. The deficiency in grasp, the haziness or cloudiness of consciousness with attention difficulties may explain the defect in the formal memory and intellectual processes. Judgment and insight are impaired.

Physical Findings. Physical findings in this group are of the utmost importance. The patient appears acutely ill and may show signs of collapse, with rapid, irregular pulse of poor volume and with a high temperature. Marked vasomotor symptoms, flushing of the face, and sweating are frequent. Subjective complaints, such as headaches and extreme constipation occur. Examination often reveals evidence of cardiorenal disease as shown in urinary findings, and heart examination changes, in blood pressure, eye grounds, etc. The findings of definite somatic disease, pulmonary tuberculosis, pneumonia, various forms of myocardial insufficiency, and pernicious anemia are often

encountered. Involvement of the gastrointestinal system as revealed by abdominal pain, nausea, vomiting, and extreme constipation often appears. Evidence of genitourinary disease, difficulty in elimination, retention, and incontinence of urine may occur. There are no special pathognomonic neurological signs. Definite disturbances of the sympathetic system may be present: dilated pupils, changes in blood pressure, pallor, flushing, extreme constipation, etc. Trophic changes are often seen. Metabolism may be involved as in hyperthyroidism, pellagra, and Addison's disease. In fact, general metabolic disorders are to be expected, particularly, if the psychosis is on an endocrine basis.

Laboratory Findings. As a rule leucocytosis is present varying with the degree of infection and the type of disease. The red cell count and hemoglobin studies often show the presence of a secondary anemia. Sedimentation rate is sometimes helpful. Urinary findings are often characteristic, albumen, sugar, indican, diacetic acid and acetone may be found.

In the microscopic examination hyaline and granular casts may be seen according to the type of toxemia. Urea retention in the blood and a decrease in phenolphthalein output is frequent. Liver function may be found impaired. The basal metabolic rate may be affected according to the changes found in the glands of internal secretion. The urine, blood, spinal fluid and sweat may reveal the presence of drugs.

Cultures of the throat, complete gastric analyses, sputum examination, blood cultures, etc., may be indicated in the study of many psychoses of this group. In short, the clinical pathological investigations should be unlimited and all laboratory methods be utilized to the fullest extent.

Treatment. It can be seen from the above synopsis that any treatment of the toxic psychoses requires knowledge of

the whole domain of general medicine. One should not consider treatment without mentioning prevention which is certainly of primary importance. The majority of these psychoses are avoidable. For instance, alcoholic psychoses can be prevented as well as psychoses due to drugs and other toxic agents. Without going into the question of morphine addiction, it seems that this condition could be definitely decreased in frequency by restricting the manufacture of drugs of this type to the amount actually needed and used by the medical profession. It is highly probable that only a small fraction of the morphine derivatives actually produced at the present time are needed in the practice of medicine. Better industrial supervision and protection of individuals, particularly, in the manufacture of white lead, are needed to eliminate poisoning from this source. Proper dietetic routine will certainly solve the question of pellagra. Prophylactic measures directed against acute infectious diseases in general, especially adequate periods of convalescence will do much to prevent the unfortunate later sequelae.

Toxic factors and disorders of the central nervous system can elicit a variety of reactions dependent on.

1. The personality involved, including the experience and life determined factors that have played a role in the personality development.
2. The setting in which the reaction began
3. The situational factors occurring from time to time during the reaction.
4. The amount and special characteristics of the toxin, the infection or disorder present

Naturally, the specific features of treatment will be dictated by the type of infection or poisoning which is the basis of the psychosis. There are, however, certain general therapeutic principles which are applicable in the majority of instances and are often life-saving.

In general, we may state the following principles of therapy

1. Careful eliminative procedures, catharsis, colonic irrigations, gastric lavage, attention to the fluid balance of the body and urinary excretion, promoting elimination via the skin, and in certain types of intoxication the utilization of chemicals to promote excretion ¹

2. The control of infection if present and the careful search for and removal of all actual foci of infection. Surgery is often required for the removal of infection as well as in the operative treatment of hyperthyroidism. X-ray and radium may also prove of value. The teeth and tonsils are extremely important. Colitis may be frequently encountered and indicates a definite treatment procedure. The administration of serums, vaccines, etc., may help to secure immunity against various infectious states

3. Improve the efficiency of the "Support Systems" and protect them from further inefficient functioning. For instance—Cardiac stimulants and regulators should be utilized in case of actual or even threatened cardiac decompensation

4. Dehydration and acidosis must be minimized and controlled. Routine dietetic and tonic treatment is required in the management of the majority of psychoses of this group. Transfusions are indicated if hemoglobin is below 50%

5. In the cases in which cerebral edema is present, spinal drainage and the cautious intravenous administration of hypertonic solutions, saline and glucose preferably, are indicated.

6. Sedation and its proper application with full appreciation of its dangers is important. In general, in the deliria we consider sedation indicated, but primarily and only to

¹ Example: Utilization of sodium chloride to promote excretion of the bromide ion in bromidism

preserve or better the patient's physical status by allowing for adequate rest. Sedatives given to the delirious patient for the pleasure and convenience of the environment not only is poor medical therapeutics, but is distinctly an element of danger to the patient. Sedatives used in this disorder are of two types, (1) hydrotherapy and (2) chemical

Of the hydrotherapeutic measures, the most helpful is the "continuous" or "neutral" tub. The temperature of the water should range from 97.6° (in case of hyperpyrexia) to 99°. Care must be taken to keep the tub room temperature constant. The patient may be kept in a continuous tub for one to twenty-four hours without difficulty. The time element is solely dependent on the effect desired and the patient's physical status. The delirious patient's vegetative nervous system is usually unstable during his acute illness and therefore shocks in the form of cold water, etc., must be avoided. Cold-wet or warm-wet packs are usually contraindicated, chiefly because the restraining element of the closely wrapped sheets promotes fear.

In any case of delirium no hypnotic drugs should be given during the day. The patient needs rest at night—a time when he is more apt to be disturbed. The type of hypnotic used depends on the type of delirium and the toxic agent causing the disorder. In the main, a quickly acting, rapidly eliminated or metabolized drug which is not easily accumulated, is in order. The hypnotic should be given in a large enough dose to cause sleep and should, in general, be administered before darkness, with its concomitant shadows which are prone to increase the patient's disorientation and fear. In deliria just beginning, complete obtundation occasionally is helpful in breaking off a more prolonged reaction.

7. The nursing problem is an acute one and worthy of a great deal of careful consideration, and, without question, requires not only patient understanding and ingenuity,

but tact and skill. Reassurance, with carefully made explanations of the intentions of the nurses and physicians and of the environmental factors attracting the patient's attention must be constantly given the patient. Furthermore, the management of the environment with the elimination of disconcerting shadows, sounds, movements, etc. is necessary for the comfort and progress of the ill patient. The patient should be safe-guarded from accident during the acute manifestation of the psychosis. Suicide is frequent and all caution should be employed in this regard.

8 The collection of topical material offered by the acutely ill patient is of the greatest value in affecting a more adequate personality adjustment of the patient when the acute episode is past. This is particularly important in the deliria occurring in a setting of addiction, in which instance some analytic-synthetic personality study is the only basic way of attempting to prevent recurrences.

9 A prolonged period of convalescence is of great importance in preventing late sequelae in the acute infections.

10 Follow up care of patients in Out-Patient Clinics is needed.

Prognosis —In general, the prognosis of the toxic psychoses is very good and recovery is the rule. The mortality should be small, particularly, if the essential early treatment is given and the patients are admitted promptly to Psychopathic Hospitals. The duration of the psychoses is usually brief, particularly in acute delirium. However, protracted toxic states occur. Delirious-like states may occur in a setting of eclampsia, brain tumor, syphilis and senility. In these instances, since there is frequently lasting brain damage produced, there may persist the characteristic retention defect and confabulation of the organic reactions. Furthermore, it is of significance that a delirium may be one of a more psychogenic type, such as an hysterical, epileptic or tantrum phenomenon. Also, in diagnosis,

prognosis and treatment, it is of great importance to realize that a delirium may temporarily cover up a more profound psychotic development, for instance, a manic excitement, a schizophrenic reaction and paresis

DETAILED CONSIDERATION

Among the delirious-hallucinatory reactions proper we distinguish in the main, two forms

1. The exogenous type of delirium delirium due mainly and primarily to poisons
2. The endogenous type of delirium:—or delirium that is chiefly toxic, toxic-infectious, or exhaustion determined, with somatic and neurological involvement

EXOGENOUS TYPES

Alcoholism. Without regard to the therapeutic use or uselessness of alcohol, it is universally conceded that the nervous system is particularly vulnerable to its effects in large amounts. Plutarch, Aristotle and Hippocrates wrote of its deleterious action, and in 1844, Flemming described delirium tremens and mania á potu Alcoholism may be a symptom of other psychoses but in itself it accounts for five to ten per cent of all mental disease Even in moderate doses, alcohol lessens motor activity, increases reflexes, diminishes physical strength, lowers the fatigue point, interferes with clarity of ideation, impairs capacity for judgment and mental work, interferes with the sharpness of memory and the stability of the emotions It is a direct poison to the cortical cells, and in acute intoxication Nissl found they were destroyed or damaged with shrunken and displaced nuclei

TYPES OF ALCOHOLISM

The problem of alcoholism is becoming of increasing sociological and medical importance Dayton states, "The first year of the Eighteenth Amendment, 1920, saw a pre-

capitate drop in mental disorders From 85 per 100,000 population in 1919 the admission rate falls to 72 in 1920, a decrease of fifteen per cent in a single year The admission rate for 1920 was the lowest of the seventeen years of the study Maximum employment and high wages prevailed in both 1919 and 1920. Following 1920 the admission rates rise irregularly The rate of the pre-Prohibition year of 1919 is not equalled for eleven years, or until 1930 "

In commenting on the influence of alcohol on the incidence of psychoses he further states, "In general, the intemperate use of alcohol or even the temperate use, is associated with the psychoses due to syphilis (General Paresis and With Cerebral Syphilis), the psychoses due to intoxication (Alcoholic Psychoses and Due to Drugs), the psychoses due to trauma (the Traumatic Psychoses) and one psychosis due to vitamin deprivation (Psychoses with Pellagia). Only in the abstinent group do the Syphilitic Psychoses drop to low levels. Patients using any alcohol, the intemperate or temperate, are high also in the Traumatic Psychoses "

Until we gain a better understanding of this problem all attempts at classification and etiological discussion are unsatisfactory For purposes of day to day use we have found the following grouping simple and workable

1 Social Drinking Under this heading may be included that wide and much discussed group ordinarily called "normal" or "social" drinkers It may be presumed to include that group whose drinking varies from an annual Xmas eggnog to the daily before dinner cocktail and perhaps may include an occasional vacation spree To be included in this group the person must in no way be dependent upon the toxic effect of the alcohol Many persons who consider themselves social drinkers probably border upon the situational group but in all instances they must be able to indulge in or forego the pleasure of the alcohol depending upon the proprieties of the occasion.

2 **Reactive Alcoholism** Within this group fall that heterogeneous group who drink in relation to or as an escape from some environmental situation. Persons drinking in relation to vocational, marital, economic and physical difficulties not related to deep-seated personality problems may be properly included within this group. It is believed that a more thorough understanding of the alcoholic patient will result in a gradual absorption of this group into other headings of the classification.

3 **Symptomatic Alcoholism:** This is the phase of the problem in which the alcohol exists as one manifestation of the behavior difficulties encountered by patients suffering from one of the major organic or functional psychoses. The alcoholism may temporarily color the general reaction but careful study reveals the true state and suggests the proper treatment.

4 **Alcoholism in a Psychoneurosis** In certain alcoholic patients a psychoneurosis seems to be the etiologic factor. Certain of these cases use alcohol for a relief of the tensions and anxieties accompanying the disorder and in others the alcoholism itself is the prominent manifestation of the neurotic mechanism. The analytic literature contains numerous examples of the latter group of patients.

5 **Alcoholism Simplex or (Essential Alcoholism).** This is the large catch-all of the diagnostic classification of alcoholism. Into this category are placed those patients in whom we find no factors which can reasonably be labeled etiologic. The cases present a problem which is neither essential nor simple and the terms are probably used to mask our ignorance as to the true psychopathology of this state. Many persons who drink excessively and who may be classified as "psychopathic personalities" are included under this heading.

The Alcoholic Psychoses. Not all alcoholic individuals develop psychoses. On the other hand, all of the above group contribute cases to the psychotic reaction, the picture

varying with the previous psychobiologic experience of the individual. The nutritional and physical status are important factors and when considered with the general personality pattern of the individual explain the seemingly wide variation in tolerance to alcohol seen in any group of these patients. The alcoholic psychoses are commonly classified as

- A Pathological Intoxication
- B Delirium Tremens
- C Korsakow's Psychosis
- D Acute Hallucinoses
- E Chronic Hallucinoses
- F Acute Paranoid Type
- G Chronic Paranoid Type
- H. Alcoholic Deterioration

Each of the above headings will be discussed briefly and sample case histories of the more important types will be presented.

A Pathological Intoxication—An acute mental disturbance due to varying amounts of alcohol and manifesting over a short period of time, excitement or fury with confusion and hallucinations followed by amnesia.

B Delirium Tremens—This reaction usually begins acutely and is characterized by motor restlessness, distractibility, hallucinations particularly of sight, illusions, great apprehension, tremor and ataxia. In effect it is a severe delirium plus marked tremors. As the disease progresses, the motor and mental activity becomes greatly increased. The tremors of the tongue and fingers are severe. The patient is sleepless, has fever, rapid pulse, low blood pressure and loses weight. There is albumin in the urine. In favorable cases the delirium terminates abruptly in a few days. Delirium tremens is often badly treated and if resort to elimination and hydrotherapy were stressed, reliance on narcotic drugs abandoned and routine spinal drainage cauti-

ously employed, the recovery rate would be much higher. Avitaminic therapy employing thiamin chloride and nicotinic acid is valuable.

CASE 19. A B Age 30 Admitted November 11, 1922
Discharged December 1, 1922 Acute hallucinatory delirium
with marked general tremors and toxic symptoms

A B was admitted to the hospital with the following history. For three weeks he had been drinking steadily, at times taking more than one quart of whiskey daily. Two days before admission he became very apprehensive and complained to his landlady that various people were following him and that they were going to kill him. At that time he was extremely restless at night. He complained of seeing snakes, cats, dogs, and pigeons in his room and of "small animals" crawling in his bed and over his skin. For his protection he was turned over to the district physician who promptly sent him to the Psychopathic ward.

Personal history and family history were relatively unimportant. He had been a chronic drinker for a period of twelve years. During this time there were numerous spreebouts but there had been no history of delirium tremens.

Mental Examination. *General Behavior*—The patient presented a striking picture. He was tossing back and forth in bed, yelling at the top of his voice, "Take it away!" "Oh, my God, let me die!" He was picking at the bed clothes, squirming from side to side, striking at imaginary objects, complaining of seeing lions, snakes, tigers, dogs, pigeons, mice, rats and alligators. He was so terrified that routine mental examination was impossible. Two days later he was more approachable and the mental examination was completed. However, the restlessness continued and hallucinations were particularly marked at night. He was disoriented for time, place, and person, stating that he was home, later that he was in the hospital and had been there for the past two weeks (really three days). There were

marked discrepancies of memory and fluctuation of attention which accounted for the poor calculation and lack of general information. Judgment and insight were poor

Physical Examination. The patient showed extensive tremors and agitation, dilated pupils, flushed face, and marked sweating. Pulse was 120. Respiration 28. Temperature subnormal, 97.6. Blood pressure 110/80. Marked anorexia. All laboratory examinations were negative. There was a marked increase in spinal fluid pressure when lumbar puncture was performed immediately after admission to the hospital.

Course in the Hospital. A. B. showed little change during the first three days. He became somewhat quieter, following drainage of 50 cc of spinal fluid. Hallucinations disappeared on the fifth day but he complained of extreme insomnia. He talked freely about his condition. He described all kinds of grotesque animals, such as alligators without heads, distorted faces, both human and animal. He denied auditory hallucinations. At one time he felt as if the ceiling was swaying back and forth and feared he was about to be killed. He was worse at night for his visual hallucinations were more real to him at this time. At the end of the second week the patient was better. He was up and about in the convalescent ward and was discharged a week later, recovered.

The essential feature in the treatment of this case consisted of immediate spinal drainage. This therapy is indicated owing to the cerebral edema often present in delirium tremens. Gastric lavage was performed in a nearby hospital previous to admission to our wards. Measures for elimination, increase of fluid intake, protection during the acute period of delirium, administration of continuous baths, sedatives during the first three days in the hospital were all of value in the management. The patient was also given a course of iron and arsenic, as well as an abundant diet.

DISCUSSION

The above case illustrates that the diagnosis of frank alcoholic psychosis should be restricted to chronic drinkers and should not be confused with the alcoholic psychoses associated with other psychoses, such as manic-depressive, general paresis and dementia precox.

The mental reaction consisted of extreme apprehension, motor restlessness, extensive visual hallucinations, tremors and clouding of the sensorium. Treatment consisted of spinal drainage, careful elimination, hydrotherapy, and general tonic measures.

C Korsakow's Psychosis—This form is characterized by loss of memory, confabulation and relatively good understanding of what is within range of the senses and not dependent on memory. Polyneuritis is a usual accompaniment. It generally arises during the course of chronic alcoholism and is to be considered more as an organic reaction than a toxic one since permanent central nervous system damage exists. There is dizziness, headache and fainting. Disorientation as to time is prominent and the gaps are filled in by past events or falsifications. Mood is anxious, later indifferent, dull, suspicious, irritable and even humorous. The polyneuritis produces muscular pains, tenderness, pareses, wrist and foot drop, paraplegias, anaesthesias and paraesthesias, absent reflexes, etc. These latter changes have been shown to be due to a vitamin B₁ deficiency and are combated by massive (30–50 mgm) daily doses of thiamin chloride.

CASE 22 J C Age 49. Admitted March 24, 1923. History of alcoholism for the past twenty years. Typical Korsakow's psychosis shown by polyneuritis with delirium, extensive confabulation and sensorium alterations.

J C had been a periodic drinker during the past twenty years. He has been admitted to the hospital on three occa-

sions with attacks of delirium tremens. The onset of the present trouble was noticed in January, 1923, after the patient had been drinking heavily during the Christmas holidays. He began to talk in an incoherent and disconnected fashion. He greeted strangers on the street as former acquaintances, invited them to go into the saloon and take a drink with him, and became very friendly with everyone. His relatives noticed that he was extremely confused. He wandered around the house at all hours of the day and night and frequently asked the same questions in rapid succession. He played a great deal "for strength." He stated that he was going "to die with a smile." In February he was examined by an outside physician because he complained of pain and numbness and tingling over the calves of both legs. Since this time he has been under the care of this physician who has been treating him for neuritis.

His mental condition, however, progressed, and he began to tell wild stories. For instance, one morning he told his brother he had walked ten miles in order to do the marketing. On another occasion he told of riding in a chariot with the Chief of Police in order to make a survey of the surrounding suburbs where it was planned to build a new police station, etc.

The patient lost weight. At times he was incontinent of urine and his mental condition became progressively worse. He was bed-ridden the month before admission.

Mental Examination. *General Behavior*—The patient was quiet, bed-ridden, paid close attention to the examiner, seeming to take special pains with the language he used and obviously tried to put himself in the good graces of the physician.

Stream of Talk and Activity—The patient's replies were often irrelevant. He was quite accessible but became confused concerning the dates of his illness. He understood his difficulty in part and tried to cover up the defects with

confabulations In talking he used high sounding words and phrases apparently just to keep conversation going He jumped from one subject to another For instance,

Q How old are you?

A Well, I don't know

Q What year is this?

A Is this 1917? I was born October 12, 1874, one Wednesday afternoon at 2 30 P M My father and mother kept it in a book

Q What year is this?

A Is this 1917? I don't want to tell a lie but I think it is 1923. If that is wrong you can keep it a secret. If it is unsatisfactory for many to know, why, you are my boss Is this rheumatism I have Doctor? I guess it is unfavorable for me to smoke, isn't it?

Q What month is this?

A I don't know I cannot write The month of the year is nothing All I pray to God is to get well If God gives me back my normal mind and strength, well and good If he sees fit to take it away, well and good I was born October 21, 1874. What this is, I don't know What if I say this is 1926? Or 1924? Do you think I am improving any? Do you think I am proceeding, that is, improving? A word from you means more than a million words from others

Mood and Special Preoccupations—Patient seemed to be perfectly satisfied and cheerful He accepted the situation without any great display of feeling He denied any feeling of depression.

Delusions—He stated that he had been treated very badly outside but no definite systematized delusions could be established He had previous hallucinatory experiences when he states that he was "crazy through drink"

Sensorium and Intellectual Resources—Patient was completely disoriented for time, place and person On one occasion said it was February 4, 1914 On another occasion

he felt that it might be December 5, 1925. The dates varied as the question was asked.

Memory—Showed extensive changes for both recent and remote events. He was unable to recall the general outline of his past correctly and in due sequence. He was so hazy as to details that he could not be pinned down to any facts.

Recent Memory.—Patient said that he had been in the hospital two months (really two days). When asked how he spent his time he filled in the memory gaps with remarkable stories. He described a recent trip from Pittsburgh to Philadelphia. He stated that since he did not have the money to ride, it was necessary for him to walk the entire distance. He attributed the soreness of his feet to this journey. He said that he came into the hospital at 4 00 A. M., apologized for his appearance but said since "the doctor realized the hard time" he had had, he would readily understand. On another occasion he told a story of having "beat up" three men who came into the ward to cut him. He knocked them all down and saw that they were promptly arrested. He described a recent trip to Atlantic City where they had a great drinking party and "looked over the sights." He mistook a consultant for his brother and was very much surprised when the consultant told him that he did not know his name. He usually greeted physicians as long lost friends and former barroom associates. He said that he would be contented from now on and spend his time reading on the Plaza.

Retention—Could only retain four digits and often failed with three. He was unable to retain addresses even for a short period of time. Could not recall "Box 42" after one minute.

General information was extremely poor.

Calculation—He was unable to do the average tests on account of attention and retention defects.

Speech and Writing—His writing was very tremulous. Speech tests were fairly well done but with elaborations.

Judgment and insight were lacking but at times he realized that he was very forgetful.

Physical Examination. A summary of the physical examination is as follows: Marked under-nutrition, bilateral wrist drop, absent reflexes of upper extremities. Absent reflexes of the legs. Diminished tactile sensation on the legs. Trophic changes in the skin. He complained of paresthesias of both arms and legs, and had a definite polyneuritis. The pupils were equal, irregular and reacted poorly to light and during accommodation. There was marked muscular atrophy of the calves.

Laboratory Findings. Blood Wassermann and spinal fluid were negative. Spinal fluid was not under increased pressure.

Course in the Hospital. The atrophy of the legs became more marked. The patient became completely bedridden. He continued to confabulate actively for the next three months, it being very remarkable how he would vary his stories from day to day. He was still disoriented with retention defects. At times he appeared very depressed and expressed the feeling that he "would not get well."

Bilateral foot drop developed. There was a marked change in the polyneuritis four months later. He had regained power in both legs, the reflexes returned, and sensation was practically normal. He was then up and about the ward in a wheel chair. As a rule he was cooperative and at times was quite euphoric. From this time on his improvement was progressive and his discharge from the hospital was considered a year after admission.

DISCUSSION

A typical case of Korsakow's psychosis has been presented. Korsakow's syndrome consists of acute delirium, with special

features of extreme disorientation, retention defects, and remarkable tendencies to fabricate. The polyneuritis was very marked. There was gradual change. The disease is prolonged but often there is slow improvement. A Korsakow syndrome is frequently seen in other psychoses, particularly in the organic reactions. Often these reactions progress to complete deterioration.

D *Acute Hallucinosi*s—Characterized by hallucinations of hearing, marked fears and more or less systematized delusions of persecution in a patient with a fairly clear sensorium. The usual course is from five weeks to several months.

CASE 21. M. K. Age 42. Admitted October, 1922. Acute paranoid form of alcoholism. Extensive delusions and hallucinations. Paranoid trends. Recovery after three weeks of hospital care.

M. K. gave a history of excessive drinking for the past ten years. In December, 1920, she had an attack of delirium tremens and was treated in a nearby hospital.

The onset of her present trouble began September 15, 1922, after almost constant drinking during the preceding month. She had complained at that time to her husband that the neighbors were talking about her and calling her vile names. They also had a plot against her to defame her character, to send her to prison, to destroy her reputation, and ultimately to slowly put her to death. She complained of dictaphones in the walls, said that she was watched continually, spied upon all the time both in her room and when she walked on the street. She claimed that she was being followed by detectives in order that the two women next door could accomplish "their purpose." She complained of foul gas coming through the cracks in her room in the middle of the night. At this time she purchased a revolver in order to defend herself. She misinterpreted noises outside by stating that a gang was coming in after her. She threatened to kill

the two neighbors just before she was sent to the hospital for observation

Physical Examination. The physical examination at the time of her admission to the hospital was negative. Her temperature was normal. Pulse was 112. Respiration was 24. Blood pressure 120/80. Neurological examination was completely negative. Spinal fluid pressure was markedly increased.

Mental Examination. *General Behavior*—The patient was quiet on admission. She appeared interested in her surroundings and accepted her hospital admission as meaning that her persecutors had at last “won out” and she was doomed to “die a slow death.” On close questioning she stated that she knew that her neighbors, Mrs. R. and M. had planned to slowly torture her in various ways such as giving her some slow, powerful poison, or cutting her slowly to pieces with a knife.

Stream of Talk and Activity—Her speech was along the lines of her special preoccupations which are described below under persecutory ideas. She was fairly quiet and cooperative on the wards. There were no special features worthy of comment.

Mood and Special Preoccupations—A marked tension state with anxiety was apparent. Paranoid delusions were very prominent. They were centered around the two neighbors, Mrs. R. and M. These neighbors had been “annoying” her, “tantalizing” her, and “abusing” her in various ways for the past two months. The object of this persecution was to ruin her character, to break up her home, to make her husband lose faith in her and ultimately to kill her. She stated that they were going to kill her by injecting a powerful drug into her, such as ether, strychnine, cocaine or morphine. She said that they had tried to slowly dull her senses by pumping sewer gas through the cracks of her room and had hired detectives to follow her in the street. She thought

they had attempted to get a photograph of her in order to spread vile stories about her all over the world. She denied both auditory and visual hallucinations, but her behavior, particularly at night, made clear that she was reacting to auditory hallucinations. She described warnings received from "below" telling her "to watch out", warning her not to sleep, not even to close her eyes for a week or her persecutors would pounce on her and slowly chop her into pieces, etc. She told of seeing faces looking in through the windows of her room. The faces were those of the detectives hired to follow her to see that she did not get out of the hospital.

Sensorium and Intellectual Resources—Patient was fairly clear. She realized that she was in a hospital. She gave the approximate date and year correctly. She was able, likewise, to review the events of her life in due sequence. Five digits were retained. She had fair grasp of general information. Calculation was good. Her judgment and insight were poor.

Course in the Hospital. The patient showed no change during her first week in the hospital. She continued to elaborate her persecutory ideas. During the second week she was more calm and showed interest in occupational therapy. Her persecutory ideas gradually disappeared under the influence of daily interviews and re-education concerning her mental condition. She developed excellent insight and blamed this attack on alcoholic indulgence during the preceding month. At the end of three weeks she had been discharged to her home after the Social Service made arrangements to see that she was adequately supervised in the community and that she would report to the Out-Patient Clinic at weekly intervals.

DISCUSSION

A case of acute paranoid form of alcoholism has been presented, the paranoid delusions playing the most prominent

part in the symptomatology. Unlike the paranoid conditions and paranoia, the delusions were transient and the patient made a recovery in three weeks. Treatment consisted of spinal drainage on admission, close supervision, re-education through daily interviews and careful follow-up care in the Out-Patient Clinic after discharge from the hospital.

Chronic alcoholism extending over a period of years along with a paranoid constitutional make-up accounted for the psychosis.

E Chronic Hallucinosi.—Usually a prolongation of an acute hallucinosis. As the state becomes chronic the apprehension and fear, in reaction to the hallucinations, tends to subside. Some of the cases prove to be the first manifestation of a chronic schizophrenic disorder.

CASE 20 M F Age 34 Admitted July 12, 1923
Discharged August 28, 1923 Persecutory ideas of three months' duration. Delusions of marital infidelity Suicidal intent Extensive auditory hallucinations

Onset of Present Illness—The patient gave a history of illness dating back three months when he began complaining that the "Blackhand" was after him. He heard voices which disturbed him, particularly, at night. He insisted that five of the "Blackhand" gang were in a room planning to kill him and he heard them saying, "We will get his brother too." He said gases were placed under his room to suffocate him so that he had "to give up." He threatened to kill these persecutors. During the week before admission his brother states that he was frightened, nervous, trembling and spent the evening before coming to the hospital with his finger in the keyhole of his door and his hand on the door-knob because he could hear the "Blackhand" after him. He was extremely brutal to his wife, frequently beating her without provocation. He had a fixed delusion of marital infidelity. He often watched his wife on the street and on several occasions locked her up in her room at night to keep

her from going out He felt that she was in league with the "Blackhand"

Personal History—Personal history is of interest in that M F has been a chronic drinker During the past six months he has been drinking steadily and regularly, having gone on a prolonged debauch around the 4th of July

Mental Examination. *General Behavior*—On admission to the ward the patient was fairly calm, composed, and alert He did not appear very apprehensive Tremors were not severe.

Stream of Talk and Activity.—Speech was spontaneous, mostly concerned with his persecutory ideas He stated that he felt better after arriving in the hospital but would take care of himself if the people on the outside attacked him at any time!

Mood and Special Preoccupations.—No typical affect disorder was present He seemed concerned with his preoccupations Persecutory ideas were prominent He said that the "Blackhand" gang had organized against him and that they had threatened to take his life and to kill his brother, that his wife was unfaithful to him and had been in league with the "Blackhand" for the past four months He was sure that they were trying to get into the ward after him He misinterpreted a door banging in a nearby ward stating, "Here they come now" "I will kill them or they will kill me" He thought that "they" repeated everything he said, that he was watched continually day and night "Since I was sent to the hospital they are outside trying the same antics on me" He described an odor of sewer gas and at times felt that his food was doped and frequently refused to eat it He complained of hearing voices talking to him People called him extremely vile names often accusing him of sexual perversion.

Sensorium and Intellectual Resources—The patient was approximately oriented for time, place and person He reviewed the events of his past life in fair sequence No

gross defects in memory for either remote or recent events. He retained five digits. General information was poor, in keeping with his education. Some slurring of speech was present with tremulous writing. He had poor judgment and insight.

Physical Examination. Physical examination was practically negative. All the systems were normal. He showed a slight facial tremor. All reflexes were present, equal, and overactive. Blood pressure was 160/90.

Laboratory reports were all negative, including routine blood and spinal fluid Wassermann.

Course in the Hospital. The patient adhered to his paranoid ideas for a period of one month. He refused to have anything to do with his wife on visiting days and he accused other visitors of being in league with his wife or the "Blackhand." On several occasions at night he got out of bed and tried to walk out of the window.

After three weeks he was more talkative, gradually developing insight into his condition. He gave a vivid account of his alcoholic sprees during the past year. He cooperated well as to occupational therapy and helped about the ward. At the time of his discharge he had recovered and had excellent insight concerning his persecutory ideas.

DISCUSSION

A case of alcoholic psychosis, paranoid type, has been presented in which the delusion of marital infidelity, so prominent in the alcoholic psychoses, is noted. Hallucinations predominated in the auditory field. Visual hallucinations were always denied. The psychosis ran its course in several weeks and the patient made a complete recovery.

It can readily be seen that individuals of this type are dangerous, in that, they frequently take means to protect themselves against their persecutors. Homicidal outbreaks and occasional suicidal attempts occur.

F. *Acute Paranoid Type*—Patients are suspicious, have systematized persecutory delusions and frequent misinterpretations. Distinguished from the hallucinoses by the absence of hallucinatory experiences.

G. *Chronic Paranoid Type*—Includes those cases under F which fail to recover within a few months time. Many of these cases fail to recover and careful study will often reveal evidence of a schizophrenic reaction.

H. *Alcoholic Deterioration*—A slowly developing ethical, volitional and emotional change in the habitual drinker. There is ill humor and irascibility, or a jovial, careless, flip-pant, facetious mood, abusiveness to family, unreliability and tendency to prevarication, in some cases definite suspiciousness and jealousy, general lessening of efficiency and capacity for physical and mental work, memory moderately impaired. Advanced cases are sometimes called "alcoholic pseudoparesis."

Not all of the alcoholic psychoses can be described, but, in addition to the intellectual, emotional and moral deterioration, one is perhaps especially likely to encounter hallucinations of all kinds and delusions of persecution, which are often referred to marital infidelity.

INCIDENCE

Following prohibition there was a sharp decline in the admission of alcoholic patients followed by an increase as the law became increasingly ineffective. Following repeal, however, there was a further sharp rise in alcoholic admissions in the clinic of one of us.

NUMBER OF ALCOHOLIC CASES ADMITTED TO THE COLORADO PSYCHOPATHIC HOSPITAL

A	During a prohibition year—April 1, 1929 to March 31, 1930	56 cases
B	(1) During the first year following repeal of prohibition— April 1, 1933 to March 31, 1934	80 cases
	(2) During the second year following repeal of prohibition— April 1, 1934 to March 31, 1935	158 cases

Pollock notes a similar trend in the alcoholic first admissions to the New York Civil State Hospital and reports a much higher rate of alcoholic mental disease in the period of 1936 to 1937 than in the 1914 to 1915 period or the 1920 to 1923 period. In 1914, 464 patients were admitted for alcoholism. In the four years, 1920 to 1923, only 817 were admitted while in the two years, 1936 and 1937, 1703 cases were admitted.

Treatment. The treatment of the alcoholic patient is one of the major challenges to modern psychiatry. Present plans of treatment frequently end in relapse. The treatment can best be discussed in two phases

I. Detoxification

II. Rehabilitation

I *Detoxification.*—In this sphere we have made some progress. The drug is withdrawn abruptly. Delirious or stuporous patients are given immediate spinal drainage and intravenous injections of hypertonic sucrose and glucose solutions. The restlessness and anxiety are effectively controlled with prolonged neutral tubs. Elimination is hastened by the use of oral magnesium sulphate administration and colonic irrigations.

The avitaminosis so often present is combated by administration of 15-50 mgm of thiamin chloride daily depending upon the degree of neuritic involvement. In the presence of diarrhea, delirium or dermatitis, nicotinic acid, 300-500 mgm per day by mouth, is a most effective agent.

The general physical state is further supported by adequate diet and fluid intake. Any gross system pathology should, of course, be corrected.

The use of the above simple procedures, with the avoidance of large doses of chemosedation have reduced the fatalities in the alcoholic psychoses to a figure approximating 1%.

II. *Rehabilitation.*—The period of post-toxic hospitalization necessary is a matter which must be decided in each

individual case. Periods varying from a few days to a year or more have seemed indicated in various cases under the author's care. A careful personality inventory with a discussion of the factors aggravating or causing the alcoholism is indicated in all cases. Certainly all of these patients require a drastic reorientation to their social and personality problems and where possible this should be accomplished under the guidance of a well-trained psychiatrist. In certain cases one of the various analytic procedures may be indicated. In all cases careful follow-up supervision with some environmental manipulation seems the best insurance against a relapse. Much work remains to be done before we can speak with any assurance concerning the optimum method or manner of treatment of the alcoholic patient.

DRUGS AND EXOGENOUS PSYCHOSES

In this work we do not intend to discuss drug addiction in all its forms. We plan only to give a brief review concerning morphine and heroin addiction and mixed drug cases. The problem of the drug addict is mainly one of prevention. In the final analysis as we have mentioned previously but wish to re-emphasize, it seems to us that the only feasible hope for prevention lies in definite government supervision and restriction of the supply of morphine, heroin, etc., to the amount actually needed by the medical profession. When one considers the many cases of morphine and heroin addiction cared for in hospitals as well as the number that never come for treatment, the urgent need of active preventive measures is readily seen. To be sure we must study the personality of the drug addict as well as consider the effects of the habit.

Narcotic users are not limited to any one class of society. Factors in the etiology of drug addiction as summarized by Dr. J. C. Doane are as follows

1 Predisposing causes

1. Association with narcotic users, the constitutional psychopathic inferior, the feeble-minded and the criminal
2. Chronic diseases, particularly, malignancy, neuralgia, asthma, etc
3. The use of patent nostrums
4. Doctors' prescriptions

2 Determining causes

- 1 Physical action of drugs
2. The moral, mental or physical inadequacy of the individual as a whole

Certainly in view of the above causes prevention should be a clear issue. The frequent administration of morphine derivatives is to be deplored.

It is best not to consider drug addiction as a disease entity but rather as a symptom of underlying personality defects on the basis of either intellectual insufficiency, lack of adequate emotional control, faulty habit training, social contagion or maladjustment of the instinctive life. Treadway estimated the number of drug addicts in the United States at 200,000 of whom in the past three years 12,000 have been committed to federal penitentiaries. He further states that 70 per cent of addicts started the habit following contact with other addicts and bad associations, chronic and painful illness accounts for 20 per cent, and curiosity, fatigue and the like for 10 per cent. There are four male addicts to every female addict and the habit is confined to the third and fourth decades of life, relatively few being observed earlier, and a few after 50.

Alcohol is merely one of the many exogenous poisons which produce mental symptoms. Of the narcotic addictions, morphinism is the most serious. In many instances morphine and other opium derivatives are resorted to by the psychopath who is not adequate to the demands of life.

Cocaine is the drug of the underworld and perhaps of a certain stratum of so-called "society." Veronal, luminal, and similar hypnotics and even many coal tar products may become habit-forming. Ether, chloroform, cannabis indicus, the bromides etc., all have their devotees. The physician should have two chief concerns. First, the withdrawal of the poison and second, a sufficiently long period of treatment. An abrupt withdrawal is almost always feasible except in asthenic patients who have been taking large amounts of morphine. Even with morphine, it is not a good plan to permit the withdrawal to be too gradual. After any drug has been withdrawn, at least several months of tonic, re-educative, psychotherapeutic and moral treatment are needed, if the recovery is to have any permanency.

Drug Addiction May Develop on the Basis of Personality Difficulties of Any Type. Thus, we have cases in which the addiction is dependent on a depressive reaction, a psychoneurotic reaction, a psychopathic inferiority, mental deficiency, and occasionally as a means of withdrawal in schizophrenia. The most difficult cases to treat are those occurring in psychopathic personalities. The following case illustrates this type of addiction.

CASE 23 Ruby L., a white woman of 31, was admitted to the Colorado Psychopathic Hospital, May 3, 1928. The complaint at that time, as made by a family friend, was that the patient was addicted to morphine and alcohol. She had been known to be unstable emotionally from early childhood. The only daughter of a very wealthy family, she had been pampered and spoiled from early childhood. She had been allowed to have her own way in practically everything, was given an individual bank account when very young and was allowed by her father to run up bills in any stores she saw fit to patronize. Literally, she had had everything she wanted when she wanted it and had been encouraged in developing the idea that she could get anything she wanted by paying for

it She married the first time at the age of 20 and even then she was used to drinking and taking drugs occasionally She and her husband were supported by her father. There were two children by this marriage but both died shortly after birth She and her husband got along very poorly and were not congenial with each other As described by the family friend, she looked upon her husband as a thing she had wanted and had purchased He divorced her because of her drug addiction Following this she had attached herself to a very fast social set and there had been many scandals attached to her activities in the social gossip of her home town She would become engaged to as many as three or four men at the same time. Throughout this period of her life she drank excessively and frequently and took morphine on occasion. For six or eight years just previous to her hospital admission, she was almost constantly addicted to morphine and when she could not get the drug she would complain of terrible abdominal pains. In February, 1927, she had a series of abdominal operations due to her abdominal complaints. During one of these, the right kidney was removed and some pelvic operations were performed, the details of which are not known In April of that year she decided to take treatment for her drug addiction but on complete withdrawal of the morphine she became unmanagable and disturbed, changed from physician to physician and was eventually taken out of the hospital by relatives and kept at home, where she was not allowed to have the drug for a period of one month She then said she had no desire for the drug any longer and was allowed to go on a pleasure trip. As soon as she was away from supervision, she began to take morphine again. Whenever the supply of the drug was lacking she would complain of terrible pains in the right side and the doctors would administer the drug to relieve this pain She had come to Denver two months before her admission to the hospital and during that

period of time had taken three-fourths to one grain of morphine at a dose every time she could get it, at times amounting to four or five grains a day. Four weeks before her admission to the hospital she married very suddenly and left Denver on her honeymoon. The man whom she married had heard gossip about her morphine addiction but had not believed it. On their first night together she insisted on having morphine but he refused to get it for her. She became violent and angry and as a result of this, they came directly back to Denver where she was placed in a private hospital, where physicians were called, one of whom thought that she had an abdominal obstruction and wanted to operate. The family and friends who knew of her previous operations refused to permit the operation and she was brought to the Colorado Psychopathic Hospital on a complaint for a hearing in lunacy.

The *past history* is covered for the most part in the account of the present illness given above. There remains a description of her personality as given by her friends. She was always nervous and excitable, determined to have her own way at any cost, was extravagant, on the go continuously, fond of company, insisted on being entertained all the time, sociable and well liked by her friends. She was considered brilliant mentally but was very deceptive and tricky in love affairs and especially in regard to her morphinism and alcoholism. She was considered as a very devout Catholic but married the second time after having been divorced from her first husband. She was known to have been considerably worried over the loss of her children and the divorce. There is nothing in the family history of contributory value except the fact that the father had been a hard working, ambitious man who had been remarkably successful in life and very indulgent toward his family.

Physically, on admission, she was a well developed, well nourished woman of about the stated age, of athletic habitus,

exhibiting several contusions on her arms, legs and trunk which she attributes to rough handling by the people who brought her to the hospital. The skin was of good color and texture except for the contusions noted. The lips were dry and peeling and there was dry, scaly desquamation of the chin. The pupils were round, regular, equal in mid-dilatation and almost fixed to light but reacted fairly well to accommodation. There was slight pallor of the optic discs. There was a small ulcer on the nasal septum on the right. The teeth and gums were in fair condition but there had been a great deal of dental work. The throat was clear. The lungs were normal to physical examination except for tubular breathing and increased whispered voice in the upper left lobe posteriorly with a few moist rales after coughing in this same region. The heart was normal in size and position with normal sounds but blood pressure was 150/110. The abdomen showed a scar on the right flank (nephrectomy), a scar in McBurney's region (appendectomy) and a scar in the midline (evidently for a pelvic operation). The abdominal walls were relaxed. There was no pain but diffused tenderness which was worse in the midepigastrium. The abdominal organs appeared normal except that the descending colon was palpable and markedly distended with feces. Gynecological examination revealed nothing of importance. Rectal examination showed a small fistula. The reflexes showed absent abdominals, biceps not obtained on the right but active on the left and triceps active on both sides with sluggish tendon jerks in the legs. The neurological was otherwise negative. The laboratory examinations were negative except that there was occasional albumin in the urine up to two plus during the period of withdrawal symptoms. The blood chemistry was normal on repeated examinations and the serology of the blood and spinal fluid was normal.

Mental examination at the time showed the patient to be bitterly antagonistic, unstable, quarrelsome, uncooperative,

refusing to participate in any treatment or any of the attempts made to help her. She was petulant, crying, scolding and screaming, always adopting a very superior attitude and giving the impression of unreliability in her statements. The stream of mental activity was completely occupied with complaints about the institution, treatment, physicians, headache and abdominal pain. "I have never had anything like this happen before. I have never been treated like this before. Can't you think of more ways to torture me?" "I want to see my attorney," or "I have a terrible headache but nobody pays any attention to what I say around here." She often refuses to answer questions but when she did they were at all times relevant and coherent. On her admission, she was emotionally unstable, flying into temper tantrums at the least provocation, depressed and agitated at times but capable of being pleasant when she chose. No true delusions or hallucinations, although she talked a great deal of being treated unfairly by the hospital, but this was obviously for the purpose of gaining her own ends and this attitude was dropped when she found it to be valueless to her. The sensorium was clear throughout. She was well oriented, had normal memory for remote and recent events, was able to recall seven or eight digits, etc. Her judgment was considered defective, for although she was capable of formulating plans, in view of her conduct and general reactions and the history previous to admission, defective judgment was obvious. Insight was present. She realized that her condition was due to morphine and recognized the symptoms of withdrawal but had no adequate concept of her personality defects which contributed so clearly to her addiction.

Clinical Course. Sarcastic, resistive, combative, negativistic and complaining on admission with a fixed determination to obtain her desires without any thought of consequences, she soon began to realize that the hospital

regime and the necessary treatment would not be set aside for her whims. It seems that this was the first time in her life that her wishes had even been ignored to the extent that she could not beg, borrow or steal the means of gratifying her desires. She was placed on routine treatment for drug addiction. To wit: (1) Complete withdrawal of all narcotics and sedative medicines. (2) Elimination regime, including colonic irrigations and hydrotherapy. (3) Sedative baths and packs. (4) Psychotherapeutic regime of daily interviews with an attempt to establish the etiological factors underlying her addiction and to develop insight into her problem and her needs. (5) The correction of all possible physical disturbances present (Treatment of the nose, of the rectal fistula, etc.) (6) The formulation of a more hygienic living program for the patient, with instructions as to objectively meeting difficult situations and socializing her activities. For about two weeks, during which the symptoms of withdrawal were evident, she seemed contrary, negativistic and difficult to manage, but as her physical condition began to clear, she became more pleasant and cooperative. She was then given outside privileges, was encouraged to take up athletic outlets such as golf and tennis, made an excellent ward adjustment, gained weight and improved remarkably. Difficulties with her second husband were aerated completely by individual and joint interviews. After 3 months of intensive treatment she was improved to the extent that discharge from the hospital was considered advisable. Fairly good insight had apparently been established in both the patient and her husband.

No follow up information was obtainable after the patient left the hospital, but two years after discharge she obtained a divorce from her husband on the grounds of cruelty. It is not known whether she is again addicted to the use of narcotics but accounts of the divorce showed the same unstable type of adjustment as formerly.

DISCUSSION

The above is a typical case of drug addiction. We should, however, also consider the mixed cases in which morphine, cocaine and alcohol are frequent combinations. The "tapering off" method of treatment is unsuccessful and a rapid complete withdrawal of the drug should be made in each case. Delirium may occur in some patients who are too suddenly withdrawn from their drug.

Cocaine Habitués—Their chief symptoms are usually a feeling of well being in which the patient is hilarious, changing later to marked motor restlessness, dulling of moral sense and periods of mental confusion with characteristic somatic delusions, described by patients as "worms and bugs (cocaine bug) crawling under the skin." *Physical symptoms* consist of dilated pupils, rapid pulse, weakness, emaciation, anemia, etc.

It is interesting to note that 15% of the drug habitués are physicians, dentists or pharmacists. The onset frequently coincides with the beginning of neuralgia, rheumatism, neuritis, and malignancy.

Workers in the various industries are exposed principally to lead, arsenic and mercurial poisoning. Lead may produce a variety of psychotic symptoms. Often there is headache, restlessness, delirium, visual hallucinations, delusions of persecution, confusion and convulsive seizures. There is tremor, twitching of the facial muscles, inarticulate speech and insomnia. There may be wrist and ankle drop, atrophy of the hand muscles, steppage gait, and paresis or paraplegia of the legs. Treatment with intravenous sodium thio-sulphate preparations are very efficacious in these cases. Arsenical poisoning involves the lower rather than the upper extremities. The chief mental symptoms are delirium and confusion and physically there is malaise, headache and vertigo.

CASE 24. **Exogenous Psychosis Due to Veronal.** *E. F.*
Age 48 Admitted July 27, 1923 Discharged August 29,
1923.

Onset of Present Trouble. The onset of present illness was four days before admission when the patient suddenly became very noisy and restless. Frequently she imagined that she was at her work in a factory. During the past month her relatives had noticed that her speech was very thick and slurring and often it was impossible to understand her. She showed some tremors of the face. Her speech had been rambling. Immediately before admission this period of excitement was succeeded by stupor from which the patient could not be aroused.

E. F. had always been a hard worker. In 1919 she had a severe attack of influenza followed by weakness, headaches, and insomnia. At this time veronal was prescribed for her. During the past year the patient has been buying veronal without a doctor's prescription in a nearby drug store. Periodically she has taken from twenty to thirty grains daily. Previous to the onset of the present illness she was unable to sleep and had doubled this dose.

Mental Examination. *General Behavior*—After a comatose period of twenty-four hours the patient was very restless and agitated. She was suspicious of the examiner and apprehensive in manner.

Stream of Talk and Activity—She dwelt mainly on her mistreatment, particularly, by her sister and the nurses. She complained that her bed had not been properly made and that people were "tantalizing and annoying" her, to keep her from sleeping. She refused to remain in bed during the interview and after walking about the ward finally sat in a chair for a few minutes.

Mood and Special Preoccupations—The patient showed no depression. Persecutory ideas referring to her relatives and the doctors and nurses in the hospital were present. She denied both auditory and visual hallucinations.

Sensorium and Intellectual Resources.—The sensorium alterations were very marked. She was disoriented for time, place and person. She insisted that she had been in the hospital for a week (really two days) and said it was early spring in 1923. Memory was very much impaired for recent events. She was unable to tell the content of her last meal or the time of the day but thought it was "toward evening" (really ten o'clock). Remote memory could not be tested, as the answers of the patient were for the most part irrelevant. She retained four digits and was unable to fix her attention on a higher number. Calculation was not tested. She had poor judgment and insight. She felt that she would be able to go home, that there was nothing the matter with her and she was being confined against her will. She did not think that the medicine she had been taking had anything to do with her physical condition.

Physical Examination. The patient was anaemic in appearance. Pupils were regular, equal, and reacted normally to light and accommodation. Facial tremors were present. Speech was thick, slurring, hesitant and similar to that of paresis. Otherwise, neurological examination was negative.

Laboratory Data. Blood showed characteristic secondary anemia. 60% Hemo. 4,200,000 R. B. C. White count and differential normal. Urine showed a trace of albumen, no casts. All other findings including blood chemistry and blood and fluid Wassermanns were negative.

Course in the Hospital. Following the initial period of stupor, the patient showed an agitated delirium lasting for one week. Warm baths were given both day and night and were of benefit. Careful elimination through the administration of routine cathartics and tonics with abundant diet resulted in progressive improvement in her general physical and mental condition.

The delirium subsided entirely after two weeks in the hospital. Three weeks later she was sent to the convalescent

ward and subsequently was discharged for further convalescence in the country in the custody of her sister. During convalescence the patient grasped the facts concerning the habit she had formed for veronal and promised to return regularly to the Out-Patient Clinic for follow-up care.

DISCUSSION

A case of exogenous psychosis due to veronal has been presented. These cases are very important and may be mistaken for general paresis owing to the characteristic speech defect, facial tremors and changes in the sensorium. Examination of the urine, for barbituric acid may be of assistance in diagnosis where the history is not clear.

It is interesting to note that she began this habit following influenza and had no difficulty in buying veronal in large quantities in any drug store in a large city. Restriction of the sale of drugs of this type as well as in their frequent administration in Out-Patient Clinics is of utmost importance in the combating of this increasing evil.

CASE 25. Exogenous Psychosis Due to Bromide Intoxication. *R. F., aged 42, post office clerk, admitted May 18th, 1930, with complaint of a delirious reaction.*

Clinical History. The onset of present trouble was the beginning of April when the patient had a chest condition, diagnosed as influenza. He was very weak and did not recover rapidly. At the beginning of May he had a relapse stated by the doctor, to be due to pneumonia, when he was mildly delirious at times. Four days later he became delirious again and had to be taken to a hospital. He talked constantly and incoherently about the penitentiary riot at Canon City, was violent on one or two occasions, and very confused. He made continual efforts to get out of bed. He became steadily more violent. During the first violent attack four days before admission to a hospital he was given bromides and since that time had taken 1 dram every four

hours. In addition he had had some luminal. Under this medication he remained fairly quiet but on one occasion had to be given chloral. He finally became so disturbed that the general hospital authorities were unable to keep him and he was admitted to the Colorado Psychopathic Hospital.

Past History. Previous attack of pneumonia at 5. Had stomach trouble for last 12 years, for which he had dieted and taken milk of magnesia and occasional doses of nervine. Is now post office clerk and before this was a clerk in the penitentiary. Married 20 years and had a child of 19. His personality is that of a serious, and very sensitive individual, prone to worry, especially over financial affairs. He has many friends, but is not a good mixer.

Mental Examination. *General Behavior*—The patient remained quietly in bed, most of the time, but at other times he plunged out of bed and crouched in the corner of the room, evidently much frightened. On another occasion, he leapt violently from his bed, saying a red devil was after him and rushed into another room, banging his face severely on the door. At times he would run his finger up and down the wall, chasing imaginary animals away. He wept easily. He was cooperative during his more lucid intervals.

Stream of Mental Activity.—Talk was spontaneous and coherent. There was a certain degree of flight of ideas. Answers to questions were frequently irrelevant. Psychomotor activity was increased, the patient gesticulating freely.

Affect—Affect was predominantly that of marked apprehension, with a definite emotional instability.

Special Preoccupations.—The patient talked a great deal about the penitentiary riot. He described scenes he had witnessed and appeared to hold himself responsible, although he had not been there. He had some delusions of reference, saying that when he turned round suddenly he would see people pointing at him and hear them talking, he gave the

names of the people. There were some paranoid ideas on the basis of his hallucinations. He had both auditory and visual hallucinations. He heard people shooting all night and thought it came from the penitentiary. He saw a fellow looking through a hole in the roof and trying to shoot him. At times he saw animals running up the walls. He complained of seeing flashes of light.

Sensorium and Intellectual Resources—He was disoriented for time. He knew he was in a hospital but did not know where nor what kind. Remote memory appeared good, when relevant answers could be obtained, recent memory was much impaired. He retained 4 digits forwards. General information was adequate. He showed some slurring of speech. Writing was a mere scribble and no letters could be made out.

Insight.—Insight was partially present. The patient knew he was sick but did not realize his mental confusion.

Physical Examination. The patient appeared very ill. His tongue and lips were parched and were covered with dry brown fur. There were no signs in the chest on admission, and the x-ray was negative. Neurologically—marked tremors of the lips, tongue and outstretched hands were present. There was some incoordination and ataxia. All reflexes were hyperactive.

Laboratory Data. Urinalysis showed a specific gravity of 1.027, with a mild degree of albuminuria. The blood count showed 86% of polymorphs without leucocytosis. Blood and spinal serology was negative, the spinal protein was 48. **The blood bromide concentration on May 18th, day of admission, was 350 milligrams per 100 c. c.** By May 22 it had dropped to 275; May 29 to 250. Administration of sodium chloride was begun on June 2, at that time the concentration was 200. On June 6 it was still 200. By June 11 it had fallen to 150 and to 75 by June 19. It was negative on June the 24. (Fig 29.)

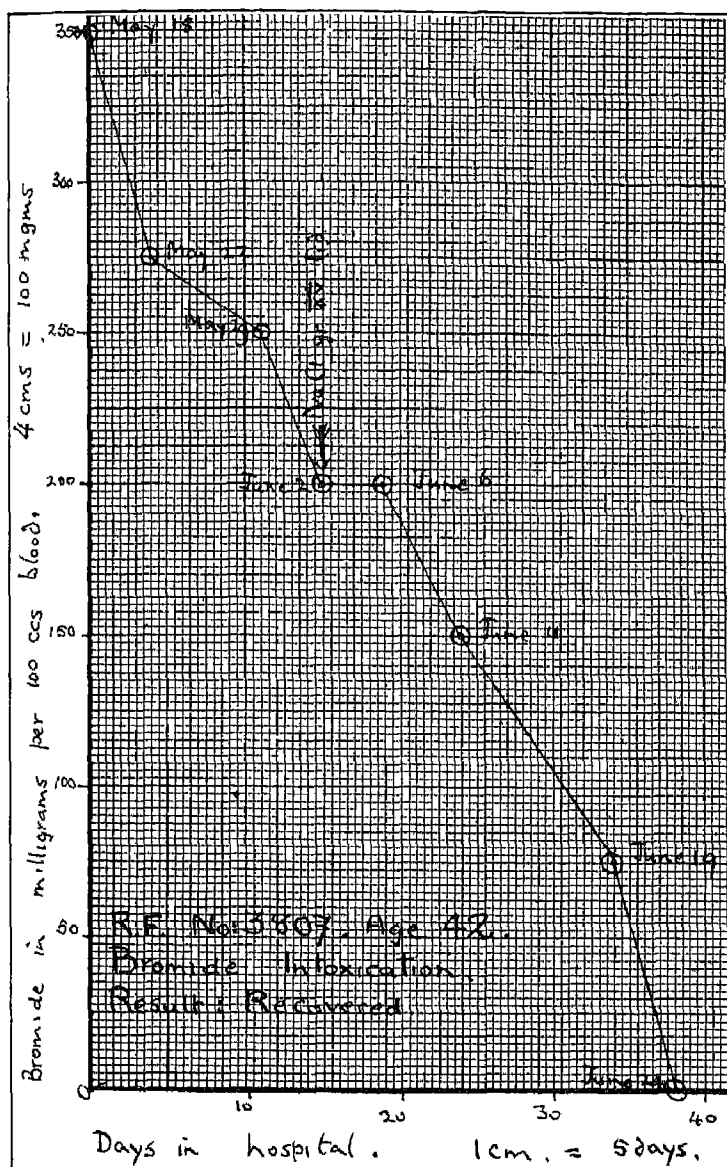


FIG 29

Course in Hospital. During the first two and a half weeks the patient had an elevation of temperature of a remittent type varying between 99.6 and 101. No condition beyond the bromide intoxication was found to account for this. He was placed on eliminative regime with continuous tubs for one hour twice a day, daily colonic irrigations and increased fluid intake. Sodium Chloride grs xv t i. d was added to this treatment after the blood bromide concentration had dropped to 200 mgms.

He showed only slow improvement during the first 36 days in hospital. At the end of that time the hallucinations disappeared in the course of a day, the delusions persisting in a mild form for four days longer. His apprehension vanished at the same time. He was discharged as recovered a few days later, with good insight into the origin of his difficulty. He has been followed in the Out-Patient Clinic since, he has had no return of his difficulty and is making a good adjustment.

Discussion. A case of bromide intoxication showing a characteristic delirious reaction has been presented. The source of the bromide was in the first place, the patient's physician, in the second, occasional use of a patent medicine, nervine. With sodium chloride in addition to eliminative treatment, the patient made a complete recovery. Besides this physical treatment, his difficulties and worries were discussed with him fully, and he left the hospital with good insight. In all cases of exogenous psychoses it is important to improve the situation confronting the patient in every way possible. This is an almost vital aspect of the treatment of these conditions and should never be overlooked.

In regard to the administration of sodium chloride, this treatment is on a sound chemical basis in that the chloride ion replaces the bromide ion and creates a chloride-bromide equilibrium. In this case sodium chloride was not given until the blood bromide had fallen to 200 milligrams per

100 c. c., as we have repeatedly found that its administration temporarily increases the bromide concentration in the blood

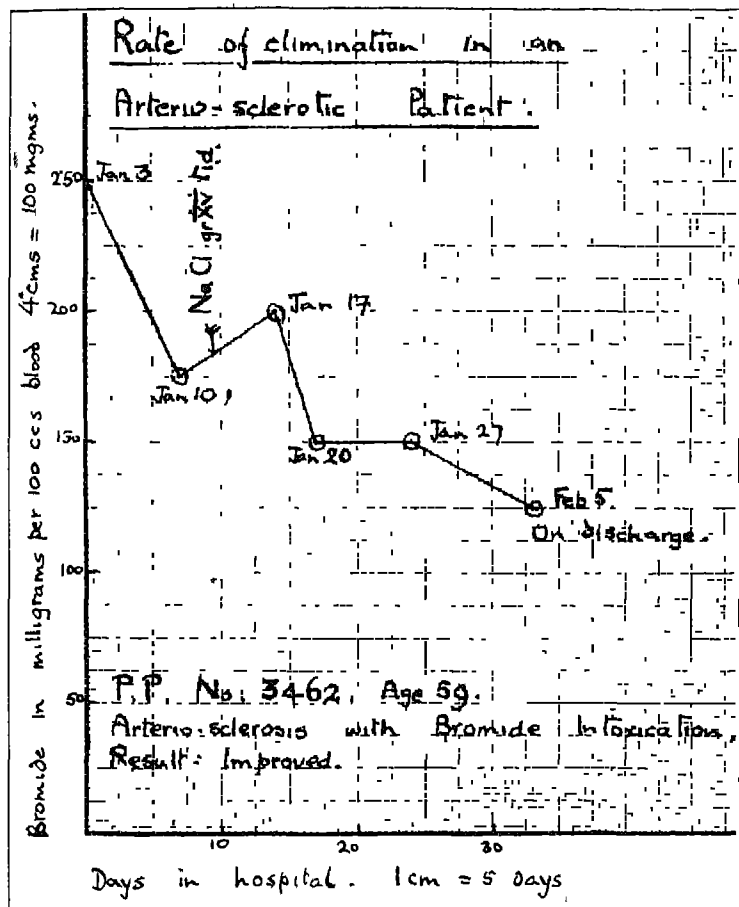


FIG 30

by hastening the liberation of bromide from the tissues while elimination by the kidneys proceeds at the original rate

In this connection Fig 30 has been inserted for comparison with that of the case reported. It represents the rate of

diminution in bromide concentration in a man of 59 In the first graph after the administration of sodium chloride the concentration remained stationary for four days, while in the second, where arteriosclerotic elements were present, sodium chloride intake was followed by increase in blood bromide We have found consistently that intoxication is much more likely to occur in cases where, owing to cardiac, renal, or arteriosclerotic disease, elimination is retarded The slowness of excretion of the bromide in arteriosclerosis is well illustrated by the second graph

Examination of the blood serum for evidence of bromides is now being made routinely on all cases admitted to the

TABLE VI—INCIDENCE OF BROMIDE INTOXICATION IN
11,440 PATIENTS EXAMINED

Number of patients examined	Patients with bromide in serum	
	Number	Per cent
11,440	490	4 28

TABLE VII—SOURCE OF BROMIDES

Source of drug	Number of patients	Per cent of patients with bromide in serum (on basis of 490 patients)	Per cent of total number examined (on basis of 11,440 patients)
Prescribed by physician	136	27 75%	1 19%
Undetermined	259	52 86%	2 26%
Nervine .	26	5 30%	0 23%
Bromo-seltzer	14	2 85%	0 12%
Other patent medicines	27	5 51%	0 23%
Obtained at drug store	28	5 71%	0 24%
Total	490	99 98%	4 27%

Colorado Psychopathic Hospital, and the results obtained in the first 11,440 consecutive cases so examined are summarized in Tables VI-IX.

TABLE VIII—PURE DRUG INTOXICATIONS

	Number of patients	Per cent of cases showing bromide in serum (on basis of 490 patients)	Per cent of total number examined (on basis of 11,440 patients)
Pure bromide intoxications			
Recovered	26	5.31%	0.23%
Improved	19	3.88%	0.165%
Unimproved	1	0.204%	0.008%
Died	2	0.408%	0.017%
Total	48	9.802%	0.422%
Mixed drug intoxication			
Recovered	11	2.25%	0.096%
Improved	14	2.86%	0.022%
Unimproved	1	0.204%	0.008%
Died	0		
Total	26	5.314%	0.226%

Of the 11,440 cases examined 490 or 4.28 per cent showed a bromide concentration in the blood 75 mgm per cent or over. Of these 1.19 per cent or approximately one-fourth of the total received the drug from a physician. When bromide is administered the possibility of intoxication should be continually borne in mind and it is the physician's responsibility to make frequent explanation of the serum concentration. It appears that any bromide level above 150 mgm per cent should be regarded as dangerous, and the dose should be regulated so as to keep the bromide level below this figure.

TABLE IX—DISTRIBUTION OF BROMIDE IN THE PSYCHOSIS

	75- 150	150- 200	200- 300	300 and over	Total	Per cent
Psychoneurosis	55	10	4	6	75	15.30
Manic depressive						
Depressed	32	7	2	0	41	8.37
Manic	10	2	3	0	15	3.06
Pure bromide	9	5	13	21	48	9.79
Mixed drug	13	6	3	4	26	5.31
Schizophrenia	62	9	4	3	78	15.91
Cerebral arteriosclerosis	24	6	3	3	36	7.35
Epilepsy	13	4	3	2	22	4.49
General paresis	14	3	1	1	19	3.88
Cerebro-spinal syphilis	0	1	1	0	2	0.41
Senile psychosis	12	2	1	1	16	3.26
Brain tumor	1	0	0	0	1	0.20
Post-encephalitis	1	0	1	0	2	0.41
Infection with delirium	11	1	0	0	12	2.45
Alcoholism						
With psychosis	11	6	3	4	24	4.89
Without psychosis	19	0	6	3	28	5.71
Mental deficiency	2	0	0	0	2	0.41
Unclassified psychosis	3	0	0	0	3	0.61
With somatic disease	4	2	0	1	7	1.43
Constitutional psychopathic inferior without psychosis	7	1	0	1	9	1.83
Amyotrophic lateral sclerosis	1	0	0	0	1	0.20
Other conditions without psychosis	12	1	3	1	17	3.47
Post-traumatic	2	2	1	1	6	1.23
Total	318	68	52	52	490	99.97

DISCUSSION

CASE 26. Exogenous Psychosis Due to *Marihuana* Intoxication. A R, age 25, single, a laborer brought to hospital by his father, on February 26, 1935, because "he

* Method for Use of the Wuth Comparator for Determining the Bromide Content of the Blood Serum—The following reagents are necessary 20% trichloroacetic acid, and 0.5% gold chloride, both in aqueous solutions

Determination of the bromide content of the blood serum is carried out as

is dangerous, thinks men are trying to kill him, claims he can see his girl with her throat cut, smells gas coming from under his mattress, believes his testicles are cut off and is seeing things" The patient stated that he was being "tricked," that "autos jumped" at him and that he was receiving "shocks."

follows 10 c c of blood are withdrawn from the vein, placed in the test tube and allowed to clot with the tube lying in a horizontal position The serum



FIG 31.

separates better in this position To 2 c c of the serum thus obtained, 4 c c of distilled water are added and 1.2 c c of trichloroacetic solution The tube is then shaken and allowed to stand for at least 30 minutes The contents are then filtered To every 2 c c of the filtrate, 0.4 c. c of the gold chloride solution is added The resulting mixture is then placed in the middle hole of the comparator and compared with the color standards placed on either side The standards should be so placed as to be consecutive If an exact match is obtained the bromide content is read off directly from the standards. If however, the color is intermediate, between two standards, the value must be estimated The number on the color standard gives the bromide content of the blood serum in mgms per 100 c c

The comparator set is put out by LaMotte Chemical Products Company and consists of two 50 c c bottles to contain the two reagents, seven bromide standards representing 75, 100, 125, 150, 200 and 300 mgm of bromide per

Clinical History. The patient, coming from unstable stock in which chronic alcoholism, depressive mood swings, and attempted suicides occurred, was a fearful, imaginative and temperamentally unstable child, the recipient of eight grades of country schooling and the possessor of a poor work record. At the age of 13 the right testicle was accidentally injured. During the last year he has been given to rather heavy mariahuana smoking, which was spiced occasionally with a drink of whiskey and beer, and punctuated frequently by fights in which he usually was badly beaten. On February 24, 1935, following a family quarrel, the patient indulged in more mariahuana, became agitated, fearful, thought people were trying to break into the house, hallucinated his girl with her throat cut, smelled gas, believed Hitler was poisoning his cigarettes, spoke of his testicles being "cut off," became confused and "dangerous" to the family.

Mental Examination. *General Behavior*—The patient was very apprehensive, careless of his appearance, masturbated frequently, was distractible, preoccupied, peeked about corners saying he saw his father and sweetheart, was excreta careless, and in general seemed very confused.

Stream of Mental Activity.—Talk was slow and at times irrelevant. Spontaneity was poor and he occasionally spoke incoherently. Psychomotor activity was increased somewhat.

Affect—Affect was predominantly that of apprehension and fear.

Special Preoccupations—The patient spoke frequently of a "jealousy" of his father and "one of the gang." He mis-

100 c c serum, and two pipettes marked to 0.4 c c and fitted with rubber nipples. Fresh color standards should be obtained once a year as the standards tend to deteriorate. (See illustration.) Fig. 31

The original article describing this method was published in the Journal of the American Medical Association on June 25, 1927, Volume 88, No. 26, page 2013, by Otto Wuth.

interpreted a sterilizer noise for the blowing of "factory whistles." He described black shadows "that mean danger," hallucinated his girl and father and smelled gas.

Sensorium and Intellectual Resources.—He was disoriented for place and, to some extent, for time. Remote memory was relatively intact. Recent memory was impaired. He retained four digits forward, and reversed three. General information was fair. Speech was slurred and writing tremulous. Judgment and insight were inadequate.

Physical Examination. The patient was emaciated, had carious teeth, and an atrophic right testicle. Neurologically, he showed only a slight tremor of the hands.

Laboratory Data. All examinations, including those of the blood cells, Wassermann reaction, urine, spinal fluid, and blood chemistry were essentially non-informing.

Course in Hospital. The patient, under active eliminative therapy, improved in a few days, and began to take an active part in the ward activities. During the first few days he hallucinated "black shadows" and then these suddenly became "white shadows" which disappeared entirely in one-and-one-half days. At the end of a week he lost his fear and possessed no delusions or hallucinations; and, was able to realize that the latter were all "imagination." His sensorium was by then perfectly clear. The patient was removed from the hospital, against advice, 19 days after admission.

DISCUSSION

A case of mariahuana delirium in an unstable, loosely organized personality with a limited intellectual capacity has been presented. Bromberg states that the clinical forms of disorders due to marihuana, that may be recognized are "(1) the acute intoxication, (2) mania, which is an acute intoxication with manic-like features, (3) the toxic psychoses with delusional and hallucinatory experiences, (4) the toxic

admixture of cannabis to other psychoses and (5) a so-called 'dementia' (an end-state of years of cannabis usage with ethical, intellectual and volitional deterioration) which is not seen in this country "

During the year 1934-1935 "mariahuana addiction" constituted 131% of all the toxic psychoses admitted to the Colorado Psychopathic Hospital.

CASE 27 Psychosis Following Carbon Monoxide Poisoning. *A R. Baker. Married Age 48. Admitted December 27, 1922. Died January 13, 1923*

Clinical History. The onset of present trouble was November 25, 1922, when the patient was accidentally poisoned by illuminating gas. This accident was caused by failure to turn off the gas stove in his room before going to sleep. His wife, not realizing the stove was turned on, placed a quarter in the meter about noontime. She did not know anything had happened until she went to call her husband at 8 P M. At this time he was in an unconscious condition and the police were summoned and took him to a hospital. A report from the hospital states that he remained unconscious for five days and that he was delirious when he came out of the coma. He was discharged December 6, 1922, apparently improved.

On arriving home he was extremely weak but planned to return to his work in the bakery. On December 8th he attempted to work but returned home after two hours. From December 12th to December 16th he worked. On December 16th his employer sent him home because he was fatigued and appeared dazed and confused. At times he trembled all over and later, December 22nd, he revealed definite mental symptoms. He imagined he was working in the bakery, mixed up all kinds of ingredients, insisting that he was making bread. He played with matches, attempted to light a tobaccoless pipe; mixed pills and tobacco, etc. He showed marked nocturnal restlessness. This behavior continued until December 27th, the day of

admission, when the patient's daughter discovered that he had turned on all the gas burners and had spent one-half hour in a gas filled room. This necessitated his removal to the Psychopathic Ward.

The family and personal histories were essentially negative. There was no evidence of any neurological condition previous to this illness. Mental examination on admission revealed an acute delirium reaction. The delirium was of the occupational type.

The neurological findings were of interest and can be summarized as follows. There was slight fixity of the facial expression. The lips were of cherry red color. There was marked rigidity of the neck. The arm, forearm, and hand group of muscles were rigid. At times there was a tremor of the paralysis agitans type. The abdominal muscles were extremely rigid and the lower extremities were hypertonic to a less degree. There was no dysarthria and no dysphagia. On passive moments, there was a distinct rhythmical interruption. All reflexes were present equally and overactive. The toes were held in the Babinski position. No clonus present. Gait showed the ataxia of weakness. He lost his balance easily and on several occasions showed a tendency to retropulsion. All movements were slow and deliberate. Otherwise, examinations were negative. Blood pressure 150/98.

Laboratory Data. Blood and spinal fluid were negative. Colloidal gold gave a normal curve. Spectrum analysis for CO was negative on two occasions. Hemo. 90% R.B.C. 4,120,000. White and differential counts were normal.

Course in the Hospital. There was a progressive failure both mentally and physically. The neurological findings remained stationary up to time of death, which was due to terminal bronchopneumonia.

Diagnosis—Toxic Delirium. Acute lenticular degeneration following carbon monoxide poisoning, terminal bronchopneumonia; chronic nephritis.

Summary. The psychoses due to drugs and other exogenous toxins are of great clinical importance. Such drugs as opium and its derivatives, lead, arsenic, bromides, veronal, luminal, and many patent preparations frequently account for psychoses of this type. Decreased production of harmful drugs, rigid restriction of their sale and use, industrial hygiene and the distribution of information to the public, in general comprise the program for prevention.

ENDOGENOUS TYPES

Probably the largest field for psychiatry in the practice of medicine, is in the psychotic reactions coincident with the fever and toxemia of infectious diseases, with exhaustion, with metabolic and deficiency diseases with cardiorenal disease and in short with every known pathological condition. There is no dividing line. The patient with lobar pneumonia who is a problem in physical diagnosis may in a few hours become delirious and consequently a problem in psychiatry. The patient who is convalescing from influenza may suddenly become depressed and suicidal. The patient with cardiac decompensation may rapidly become irritable, suspicious, confused and delusional. It may be taken as an axiom, that every somatic disease has clinically, a mental as well as a physical expression. Only a few of the psychotic responses may be mentioned.

The typical reaction type to fever and bodily poisoning is delirium, (motor excitement, incoherence, hallucinosis, disorientation, deep confusion or at least some degree of clouding of consciousness. Convulsions, katatonia and stupor may occur). This syndrome, complete or partial often appears in typhoid, pneumonia, influenza, rheumatic fever, malaria and in any infectious disease of child or adult life. Frequently delirious-like psychoses described as "amentia" by the Austrian schools and "symptomatic psychoses" by the French and American writers occur in

the setting of anesthesia and surgery or parturition. These states are characterized by confusion, hallucinations, fluctuations of attention, excitement or stuporous tendencies and frequently, as orientation returns, dwindle off through a paranoid phase in which the delusional-emotional reaction stands out clearly. When exhaustion is the predominant factor, the manifestations of delirium are usually milder and there may be depression, irritability and suspiciousness. This form occurs after long and debilitating illness, hemorrhage, severe overexertion, deprivation of food, prolonged insomnia, etc.

The picture of *uremia* is too well understood, to require much reiteration. With a background of convulsions on the physical side and mentally a clouded consciousness, there may be depression or euphoria, hallucinosis and delusional formation. The delusions are usually of the persecutory type with accompanying fear, restlessness and agitation.

In *hyperthyroidism* there is apt to be irritability and excitement even to the point of mania, there may be depression, suspiciousness and apprehension. Stone has recently summarized psychoses associated with thyroid disease, and states that thyroid disturbances (1) may cause mental disease in the form of a toxic psychosis; (2) that they may aggravate an already established psychosis, (3) that they may have no influence whatsoever on such a psychosis, (4) that they may bring to the surface a latent mental disturbance, and (5) that in some instances, an increased thyroid activity actually may be induced by a psychosis. In *hypothyroidism* the patient is dull, inattentive and the memory is impaired. All the mental operations are slow and imperfect. There may be episodes of anger some times on a delusional basis.

In *diabetes* there may be depression, with self-depreciation and self-accusation, consciousness is often clouded and there

may be disorientation with confused ideas of persecution. Dullness, apathy, somnolence and coma may appear. Overdoses of insulin cause a sense of uneasiness followed by hunger, warmth of the skin, perspiration and muscular weakness with a slight tremor. In extreme hypoglycemia convulsions and coma and periods of confusion occur (Severinghaus.)

In *gout* there may be delirium and confusion

In *pellagra* mental symptoms are common and neurasthenia, depression with suicidal tendencies, confusion, delirium and stupor are often encountered. A Korsakow-like reaction is not infrequent

In *rheumatic* fever with the pyrexia there may be an acute delirium with hallucinosis. We have seen several instances of deep stupor preceded by ideas of death

In *malaria* in addition to delirium, there may be convulsive epileptoid seizures.

During *pregnancy*, *parturition*, the puerperium, and lactation, delirium and confusion may arise and these critical episodes may be the starting point of manic-depressive psychosis, dementia praecox and even paresis

Influenza takes heavy toll of the central nervous system. Depression and melancholic stupor may appear and influenza and the post-influenzal state apparently may precipitate the major psychoses

Epidemic encephalitis may give rise to a variety of mental symptoms. There may be irritability, restlessness, marked motor agitation, delirium with fleeting hallucinosis and paranoid delusions and lethargy, deepening to stupor and coma

The physician must bear in mind that none of the psychotic reactions which accompany somatic pathology are disease entities. The terms "puerperal psychosis," "influenzal psychosis" etc., are misnomers. More important than an attempt to remember individual reactions, is the *anticipation* on the part of the physician of the likelihood of mental

symptoms and his ability and readiness to cope with them. The symptomatological background is some degree of delirium. The basis of delirium is a syndrome of clouding of consciousness, motor restlessness, incoherence and emotional lability. Such a background is often filled in by hallucinosis, transient delusional formation etc. If the physician has clearly in mind the febrile and toxic genesis of these symptoms he will at once appreciate the logic and life-saving effect of removal of the cause, elimination, large fluid intake, avoidance of narcotic drugs and hydrotherapeutic, tonic and dietetic routine. It is undoubtedly true that here a knowledge of the psychiatry of internal medicine often means the difference between life and death.

THE PSYCHOSES WITH PELLAGRA

CASE 28 Psychosis with Pellagra. *R. B. Age 39. Admitted October 3, 1922. Complained of recent loss of weight, diarrhoea, peculiar skin condition*

Onset of Present Illness. R. B.'s relatives stated the onset of her present illness was April, 1922, when it was noticed that she complained of diarrhoea which did not respond to the usual medication. Her mouth became very sore and an eruption of the skin developed over the backs of both hands and extended half way to the elbow. She lost twenty pounds. In June, 1922, she began to talk in a very irrelevant fashion, and was very apprehensive. She frequently screamed and cried out 'in the middle of the night. At times during this period she complained of depression and threatened suicide. On one occasion she attempted to jump out of the window but was prevented by her husband. Since July she has had to be watched continually since she frequently abused her children. This in contrast to her former affection for them. Frequently she was confused, on one occasion wandering for a long time about the city. She became progressively worse.

Her family history and personal history are only of interest in that she had received very little schooling. She was brought up in the South and her husband said that she had had an attack like this one in 1916. Since living in Philadelphia she had been very irregular in her eating. The husband, however, considered the diet to be normal.

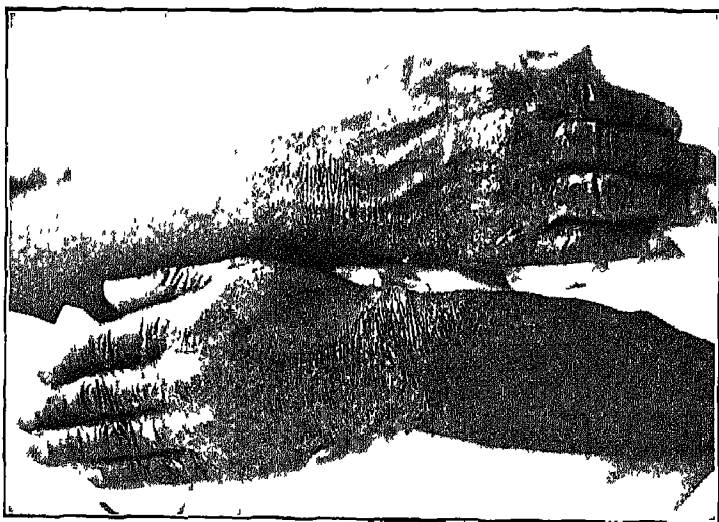


FIG. 32.—Photograph showing symmetrical dermatitis of hands and forearms in pellagra

Physical Examination. The patient was extremely ill and emaciated. Skin was loose, atrophic and there was evidence of recent loss of weight. There was a symmetrical dermatitis over both hands and forearms as shown in the accompanying photograph. No other areas of skin involvement were noticed. Very marked stomatitis was present. Liver and spleen were palpable, but were not considered to be enlarged. The neurological examination was completely negative. Temperature was 98.6. Pulse 92. Respiration 24.

Mental Examination. General Behavior.—The patient appeared acutely ill. At times she would hold her head in her hands, moaning and crying. She was particularly agitated and apprehensive at night and wandered around the ward in a confused manner, being unable to find her way to the lavatory

Stream of Talk and Activity.—Her speech was irrelevant and incoherent. For instance, she would call out to her children whom she imagined were in a room downstairs. She often heard her husband talking to her or behaved as if she were at home cooking a meal for her family. Occasionally she had overactive periods when she was very impulsive and resistive

Mood and Special Preoccupations.—Her mood tended to that of depression. She felt down-hearted over her "terrible ailment." She was preoccupied with the feeling that harm would happen to her or her family. She felt that people were "working against" her. She stated that she was afraid that her food was poisoned or that some injections would be given to her to put her "out of the way."

Hallucinations were present in both the visual and auditory fields. She imagined that she saw patients looking in at her at night, or heard her children downstairs calling her by name. Her odd behavior in the wards was frequently in response to these hallucinations

Sensorium and Intellectual Resources —She was completely disoriented for time, place and person. She showed marked defects of memory for recent events. She was unable to give the events of her past life with any degree of sequence. General information, calculation, judgment and insight could not be determined.

Laboratory Findings. Urine showed a trace of albumin, and hyaline and granular casts. Hemoglobin 40%. R B C 3,260,000 W B C normal differential count. Examina-

tion of gastric contents showed anacidity Stool examination was negative for parasites.

Treatment. The patient was given a very abundant diet consisting of meat, beef juices, fruit juices, lettuce, milk, fresh eggs, and fresh vegetables of all kinds.

Medication consisted of sodium cacodylate, dilute hydrochloric acid before and after meals Morphine preparations were also given to control the diarrhoea Occasional sedatives were administered during excited periods, and veronal and luminal were helpful

Course in the Hospital. The patient showed very little change during her first month in the hospital, except that the diarrhoea became less marked She did not, however, gain in weight until after the second month in the hospital From that time she steadily improved up to the time of her discharge May 1, 1923 By this time her skin condition and stomatitis had cleared up Routine mouth wash of potassium permanganate helped a great deal After two months her delirium became transient and her depression disappeared enabling her to be treated in the Medical Wards

Since her discharge she has been reporting regularly to the Out-Patient Clinic and up to the present time she has been getting along very well She has rigidly followed our directions concerning a diet, abundant in protein and of high vitamin value

DISCUSSION

This case is a typical one of pellagra in which, however, only three of the four D's appeared in the syndrome of Diarrhoea, Dermatitis, Delirium and Death

Since the etiology of pellagra through the excellent work of Goldberger has been proved conclusively to be due to dietetic and vitamin insufficiency, a high protein and vitamin diet should be productive of good results One should administer large doses of Vitamin B₂ in the form of

nicotinic acid (300-500 mgm per day by mouth) and since neuritic symptoms are often present thiamin chloride (15-20 mgm per day) is also helpful in cases of pellagra. Recent work indicates that Riboflavin is another important vitamin factor to be used in combating this deficiency state. These patients have a hypochlorhydria and the administration of U S P dilute hydrochloric acid before meals aids digestion and increases the absorption of the vitamin B elements from the diet as well as insuring the utilization of the synthetic drug.

Summary. The case given above illustrates a typical delirious state accompanying pellagra. The psychosis associated with pellagra as summarized by Singer may be given in order to complete this discussion.

- 1 Disorder directly due to the pellagrous syndrome
 - (a) Symptomatic depression
 - (b) Delirious states
- 2 Disorders based on peculiarities in personal makeup—the psychosis being precipitated by pellagra
 - (a) Manic Depressive Psychoses.
 - (b) Dementia Precox
 - (c) The Psychoneuroses.
- 3 Disorders due to definite brain changes with pellagra as a complication
 - (a) Arteriosclerotic Dementia
 - (b) Senile and Pre-senile Psychoses
 - (c) General Paresis.

Close association between alcoholism and pellagra has been emphasized by Klauder and Winkelmann. Boggs and Padgett in their analysis of 102 cases of pellagra found approximately 30% were of the senile type, 39% were post-alcoholic, and in about 30% the disease arose as a complication of some other malady. All cases have the common element of a dietary deficient in the Vitamin B complex.

THE PSYCHOSES WITH SOMATIC DISEASES

CASE 29 "Postpuerperal psychosis" with typical findings of toxic delirium. Recovery. *E Q Age 32*
Admitted January 15, 1923. Discharged February 21, 1923.

On January 3rd the patient was delivered of a male child. Although her condition during pregnancy had been considered normal, soon after delivery she became noisy, restless, extremely excited, and hallucinatory. This necessitated her prompt removal to the psychopathic wards. On admission she had a temperature of 101. Respiration 28. Pulse 115.

Mental Examination. *General Behavior*—On admission she was very much excited, emotional and restless and had to be restrained to prevent her from running about the ward.

Stream of Talk and Activity—Her talk was rambling and incoherent. She was reacting to visual hallucinations.

Mood and Special Preoccupations—Very tense, apprehensive, and expressed a fear that she was to die, as nothing "could be done" for her. She complained of seeing faces looking at her during the middle of the night, the Virgin Mary, a cross in the room and angels with harps, etc. She had a delusion that the people outside were going to get in and kill her and the baby.

Sensorium and Intellectual Resources—The patient was disoriented for time, place and person. She stated that she had been in the hospital for seven days (really one day) and that her baby was three weeks old. She gave the year as 1920. There were extreme discrepancies in memory, particularly for recent events. Formal mental examination could not be completed on admission. Patient had no insight into her condition.

Physical Examination. This patient was extremely ill, emaciated, undernourished and underdeveloped. No cyanosis, jaundice, or edema were present. Pulse was of very poor volume, irregular, and of low tension. Blood pressure

was 105/80. The breasts were full of milk but there was no tenderness or evidence of any infection. She showed extreme tenderness on pressure over the lower abdomen. The uterus could be felt half way between the umbilicus and symphysis pubis. Vaginal examination revealed retention of placental fragments which had an extremely foul odor when removed. Neurological examination was completely negative.

Laboratory Data. P. M. N 88%. W B. C 16,240 R. B. C. 4,620,000 Hemoglobin 85% Urine showed a trace of albumen in three examinations. No indican. No acetone. Blood chemistry was normal. Blood culture was reported negative.

Course in the Hospital. Fluids were given and free elimination was induced. Following this she showed improvement. The temperature, however, was of the typical septic variety. In the evening it was 101 or 102 falling to 97.4 in the morning. The lochial discharges cleared up at the end of two weeks and the uterus subinvolved. She began to gain in weight. The patient continued to act very apprehensive, often wandering about the ward in the middle of the night. Three weeks after admission she cleared up entirely and after an appropriate period of convalescence she was discharged recovered. Final diagnosis was Toxic Psychosis, postpuerperal in origin. Retained secundae.

DISCUSSION

This psychosis developed during the postpuerperal period and infection and retention of placental products and lack of involution of the uterus played a definite role. Following pituitrin administration, careful stimulation, and general medical treatment, she made a rapid recovery.

In many cases the puerperal period may precipitate psychoses, especially when there is evidence in the patient's personality make-up of either manic depressive or schizophrenic tendencies. The former has led to the term

"puerperal mania" which is, of course, only for descriptive use. Many cases should be definitely classified as toxic psychoses and a careful study of the cause of the toxemia and its removal is indicated. We agree with Saunders that while the puerperal state does not produce any special type of psychosis it is a new and specific experience with many chances of maladaptation. Associated with it are factors and features which affect the patient's inner adjustment to a new situation or a specific recurrent situation, which must be met with surrender or success in an additional or hitherto unknown task. Efforts at prevention or alleviation may be enhanced by a closer analysis of the individual factors in each case making for maladaptation and by attention to the stresses of the new or specific experience which served as a precipitating factor.

CASE 30 Psychosis with Somatic Disease. Lobar Pneumonia. *A. B. Age 50. Admitted November 10, 1923. Discharged January 1, 1924. The patient was picked up by the police. He was unable to give an account of himself.*

Onset of Present Illness. One week previous to admission the patient became hallucinatory, hearing voices speaking to him. He began to hold conversations with invisible people and was unable to give any coherent account of his surroundings to his relatives. At other times he complained of pain in his side and of feeling sick and chilly. His talk continued to be irrelevant and rambling. He became confused and on one occasion wandered out of the house in his night clothes. He was brought home by a friend who happened to be passing. Following a similar episode he was picked up by the police and sent to the hospital.

Mental Examination. General Behavior.—The patient lies quietly in bed, with his eyes closed. He has the appearance of being acutely sick.

Stream of Talk and Activity.—Speech is extremely irrelevant and incoherent. He gives the impression of trying hard

to focus his attention on the questions asked. He complained of intense headaches and pain in the right side.

Mood and Special Preoccupations—Patient said he was not sad or afraid and felt that he had been treated well. Hallucinations were present, particularly, in the auditory field. He heard voices speaking to him and calling to him through the open windows. He imagined at times that his son (who is dead) was talking to him and was coming to visit him. He denied visual hallucinations.

Sensorium and Intellectual Resources—Patient was disoriented for time, place, and person. He gave the year as 1921 and imagined that he was in Spain (left Spain two years previously). He spoke to the doctor as to a former acquaintance. Remote memory was fairly good but recent memory was extremely hazy for events happening during the past day. Retention was poor. Poor calculation and general information. He had good insight into his condition, saying that he was sick and needed treatment.

Physical Examination. Temperature 103. Respiration 45. Pulse 120. He frequently coughed, producing the characteristic prune juice sputum. Slight cyanosis was present. He showed evidence of consolidation of the right lower lobe and middle lobe on the right side. There was increase in tactile fremitus over this area and in vocal fremitus. Dull percussion note. Characteristic tubular breathing, subcrepitant rales and bronchophony were noted.

Laboratory Findings. Sputum showed pneumococcus of type IV. X-ray examination later showed consolidation of the right lower and middle lobes. Blood culture was negative. Urine was negative. W. B. C. 18,200. 89% P. M. N.

Course in the Hospital. The patient remained critically ill for one week when his temperature fell by lysis and was finally normal at the end of the second week. His delirium gradually cleared up and he was normal mentally the second week after admission.

He responded to treatment, mainly large fluid intake, measures to promote elimination, expectorants, and fresh air. The administration of tincture of digitalis for the first two weeks proved of value. No sedatives were given. After convalescent care for three weeks the patient was discharged recovered, the final diagnosis being psychosis with somatic disease, pneumonia.

DISCUSSION

Such a case is rather unusual in the Psychopathic Hospitals since pneumonia, early in its course, is not apt to have severe enough mental symptoms to justify admission. Transitory delirious states are prominent particularly in children.

CASE 31. Psychosis with Somatic Disease. Uraemia.
D. H. Admitted February 12, 1923. Discharged May 13, 1923. Age 52. History of previous nephritis. Convulsion with prolonged period of delirium. Improvement following treatment.

Patient came into the hospital complaining of swelling his feet and legs. Two weeks before admission he caught cold after having been exposed to inclement weather. He began to cough, said he felt ill all over, and had a bad taste in his mouth. Later he began to complain of intense headaches and pain in his back and in his chest.

He first noticed the swelling on February third when he was unable to put his shoes on. The swelling gradually got worse and extended to his legs, ankles and external genitalia. On February 8th he began to vomit and continued to do so up to the time of his admission to the hospital. He also noticed that previous to admission he passed less urine than when well, although he drank the same amount of water. There was marked constipation and visual difficulties developed. The patient had been dizzy and had a constant, intense, dull headache. The night before admis-

sion he had two convulsions, his wife stating that he was unconscious for an hour

Personal History—The patient had the usual childhood diseases. He has had frequent attacks of quinsy during the past fifteen years. There has been a tendency to nocturia with urination five to six times each night. Five years ago he had a period of acute Bright's disease following a sore throat. He had characteristic symptoms and passed bloody urine at this time. After a three months' stay in a hospital he was said to have made a complete recovery.

Family History—Mother died of Bright's Disease. One brother died of diabetes. Three brothers and five sisters living and well. No history of any malignancy in the family.

Mental Examination. *General Behavior*—The patient was stuporous at the time of examination and it was difficult to arouse him. When aroused he complained of intense headaches and of seeing dark spots before his eyes.

Stream of Talk and Activity.—His talk was irrelevant and incoherent. He misidentified the examiner as a previous acquaintance, considered himself at home and stated that he would have to begin work soon.

Mood and Special Preoccupations—Patient showed emotional instability. He expressed the feeling that he would "never get well" and that nothing could be done for his terrific headache. He had no persecutory ideas. Visual hallucinations were present, particularly at night when he often complained of seeing geese and other birds flying about the ward. Auditory hallucinations were denied.

Sensorium and Intellectual Resources—Patient was very confused and completely disoriented for time, place, and person to such an extent that routine mental examination could not be completed.

Physical Examination. Physical examination was of interest. The patient showed extensive edema of the legs,

ankles, and external genitalia. Ascites in a moderate degree was also present. Blood pressure was 210/140. Heart was enlarged and R. C. D. measured 4×12 cm.

Special Examinations. Eye grounds showed typical albumenuric retinitis. Urea N 98. Creatinine 4.8. Chlorides 480. Urine showed a heavy cloud of albumen. Specific gravity showed very little variation from 1.010. Phenolphthalein output 6% first hour and 10% second hour.

Treatment in this case consisted of prompt venesection of 600 c. c. of blood following which convulsions ceased. He was given a nephritic salt free diet, careful nursing, sweats, and hot packs and careful elimination. Progressive improvement, both mental and physical occurred permitting his discharge from the hospital after five months' stay. Since this time he has been reporting to the Out-Patient Clinic and following advice closely concerning avoidance of over-exertion and diet. He has, thereby, safeguarded himself as much as possible against a return of his illness.

CASE 32 Psychosis with Somatic Disease. Chronic Osteomyelitis Left Humerus. *T. B. Age 21. Admitted Aug 5, 1923. Discharged February 3, 1924.*

This patient was referred from a nearby hospital Surgical Service October 17, 1922. His chief complaint was pain and swelling in the left arm. The history stated that while he was in a moving picture show, four days previous, severe pains had started in his left arm. This continued until the following day and the severity of the pain increased. When admitted to the hospital he had a temperature of 102. The diagnosis was acute osteomyelitis and immediate operation was advised and performed. His left arm was incised for about four inches. The periosteum was found swollen but not perforated. Upon incision, a large amount of thick foul-smelling pus came out under increased pressure. The cortex was opened to the medullary cavity and pus evacuated. Carrel tubes were inserted. His condition was good follow-

ing the operation. Temperature went down to normal in two days. Following this the boy became delirious and his temperature again went up to 103. On operation, pus was found just above the elbow. Blood cultures were repeatedly negative. X-ray on October 27 showed no evidence of bone change in the left humerus. On November 6, 1922 the x-ray showed that the entire length of the left humerus was involved by acute osteomyelitis. The principal lesion was in the upper half. The evidence of involvement lower down was chiefly a separation of the periosteum. On November 21, 1922 the x-ray showed the entire left humerus involved—especially the distal end of the bone. There was also a very extensive defect involving the middle third and a pathological fracture at the surgical neck and for a considerable distance below this point the bone was a mere shell. There was no part of the diaphysis which was not to some extent involved. On January 4, 1923 the x-ray showed there was no evidence of limitation of the infection. There had been, since the last study, a pathological fracture in the middle third. There was also formation of an extensive involucrum about the upper portion of the bone. On February 3, 1923 examination of the pus showed hemolytic staphylococcus aureus. At this time the staff psychiatrist discovered that the patient was in a stuporous condition. There was marked retardation and greatly diminished reaction to pain stimulation. *The stupor is associated in the patient's mind with death.* The diagnosis was Toxic Psychosis. The boy was discharged from the hospital August 2, 1923, improved.

Three days later he began to complain that people were talking about him. He said that they frequently pinched him on the arm and had caused his "trouble." He heard voices calling him "bad names." He felt that they were following him in order to kill him. He saw God and angels. He said that he was still under the influence of the anaesthetics given to him in the hospital. He complained of intense

headaches, and was nauseated and vomited. Since the onset he has lost about twenty pounds and become emaciated. He had periods of insomnia and agitation and was admitted to the Psychopathic Hospital, Aug 5, 1923.

Personal history and family history were relatively unimportant.

Mental Examination. *General Behavior.*—Patient was very talkative and at times violent. He was destructive and frequently tore up the sheets of his bed, or attacked other patients without provocation. At times he would lose himself wandering through the lavatory and on the ward. He appeared dazed and confused.

Stream of Talk and Activity—His speech was flighty and irrelevant. He spoke rapidly about the operating room, ether, electrical feelings, waves of electricity in the air, people pinching his arm, or trying to kill him. It was impossible to hold his attention and his conversation was apparently related to his previous surgical experiences.

Mood and Special Preoccupations—Patient was extremely apprehensive, irritable, and tense. He had persecutory ideas. He felt that his friends had harmed him, called him "bad names," and pinched him on the arm causing the formation of more pus. He threatened to commit violence if this continued. Hallucinations were present both in the auditory and visual fields. He heard voices talking to him, particularly those of the doctors who had previously treated him. They told him that there was no hope for him and that he would never get much better. The voices at other times cursed him. He saw angels about the ward with halos over their heads. Frequently saw God. Also heard God talking to him. He continued to have delusions that he was under some "electrical spell" which was cast on him by his friends.

Sensorium and Intellectual Resources—The patient was completely oriented for time, place and person. However,

at first he did not realize that he had been changed from one department in the hospital to another and showed very little interest in his surroundings. There were extreme defects of memory for recent events. When he cooperated, memory for remote events was fair. Cooperation could not be obtained for calculation or general information. He had some insight into his condition. He said it was serious and was caused by his arm. He maintained, however, that "mistreatment" was responsible for his trouble.

Course in the Hospital. The course in the hospital was very interesting. X-ray August 8, 1923, revealed a large sequestrum 6" long and an osteomyelitis of the entire left shaft of the humerus with several draining sinuses. Under general anaesthesia the sequestrum was removed and much pus was evacuated. Drainage was established. Following this the patient improved progressively, gained in weight, and responded to tonic routine.

One August 13, 1923 the patient appeared normal mentally for the first time and was discharged to the Out-Patient Clinic. He was finally discharged February 2, 1924. Since this time he has reported to both the Neuropsychiatric and Surgical Clinics and his condition has continued satisfactory.

DISCUSSION

This case is of interest in that it is a toxic psychosis as a result of a chronic osteomyelitis. We have encountered similar cases in one of which the administration of autogenous vaccines early in the course of the disease was of very great value and resulted in the prompt recovery of the patient.

The difficulties of surgical treatment in severe cases of this type are fully shown in the above synopsis. Careful follow-up care should prevent another relapse, particularly, since the surgical and neuropsychiatric clinics are both keeping him under close observation. At present he has a

small sinus which is draining freely. He has gained thirty pounds in weight since the last operation and there has been a general increase in his activities. He is more interested in his home surroundings, and takes an active part in the community life of the neighborhood in which he resides.

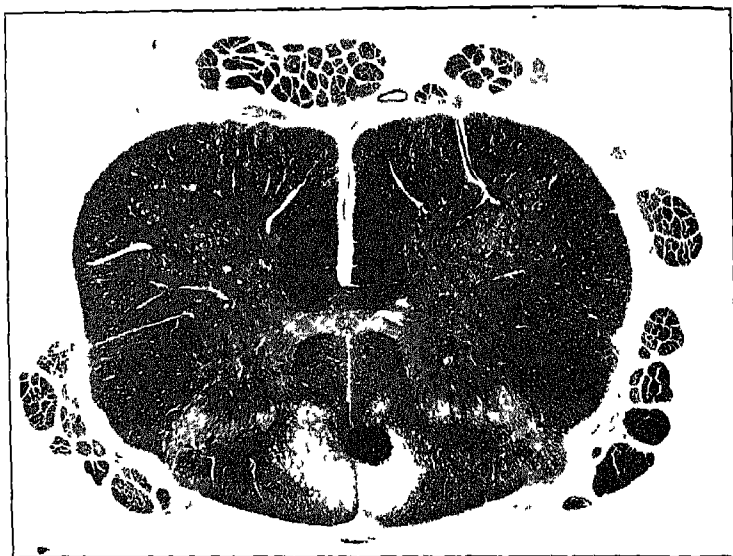


FIG. 33—Lumbar cord $\times 10$ (Von Heuman stain—modification of Weigert) Showing typical moth eaten appearance in fasciculus gracilis (Courtesy of Hugo Mella, Biennial Report, Colorado Psychopathic Hospital, 1925-26)

This patient was presented at conferences when he was first admitted to the ward and there was a difference of opinion. It was equally divided, half of the consultants maintaining that it was a definite case of dementia precox, the remainder giving a good prognosis and placing the patient in the toxic group of psychoses. The silliness of the patient, the type of delusions, ideas of reference and influence, and hallucinatory episodes suggested a schizophrenic process. His personality make-up and previous excellent adjustment along with the definite findings of somatic disease were against this belief.

In general, the practice of placing patients in the more benign group of psychoses, thereby indicating active treatment procedures is the best to follow

CASE 33 **Psychosis with Somatic Disease. Pernicious Anemia. Posterolateral Sclerosis.** *M B White*

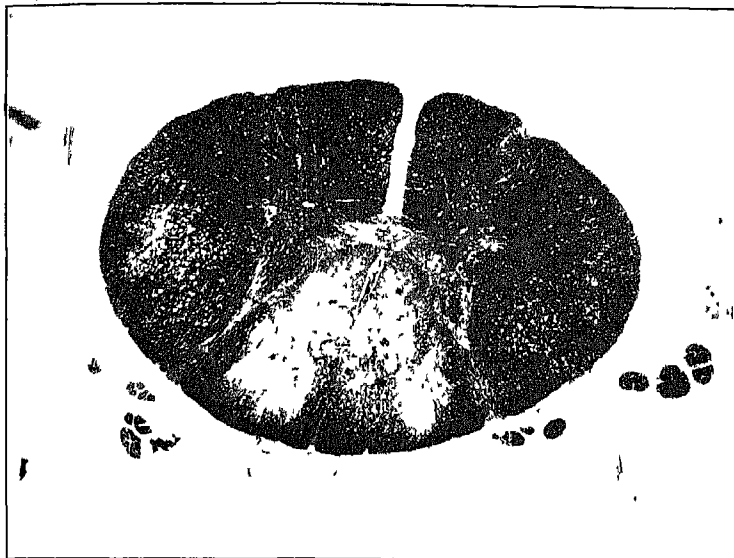


FIG. 34—Thoracic cord $\times 10$ (Von Heuman stain—modification of Weigert) Degenerative process visible in cortico-spinal and rubro-spinal tracts as well as fasciculus gracilis and fasciculus cuneatus, the latter lesion more chronic showing slight neuroglia proliferation (Courtesy of Hugo Mella, Biennial Report, Colorado Psychopathic Hospital, 1925-26)

Age 53. Admitted July 13, 1923. Died July 17, 1923.
Complaints: Anemia. Constant yelling at night

Onset of Present Illness. The patient had been treated by various physicians for anemia since September, 1922, but without improvement. For the past three months she had been growing progressively weaker. She was constantly agitated at night, confused, delusional and felt that she was abused by those about her

Her physical condition has been very serious. Edema over both hands and ankles developed.

Personal History. Normal birth and development. She was a graduate nurse. Personality make-up was normal. Always a hard worker.

Family history was essentially negative.

Mental Examination. *General Behavior*—The patient was very agitated.

Stream of Talk and Activity—Talk was irrelevant and incoherent. At times she cooperated poorly and was very antagonistic especially toward the nurses.

Mood and Special Preoccupations—Marked affective lability was present. She was paranoid in her attitude and imagined that everyone was trying to annoy her. Both visual and auditory hallucinations were present.

Sensorium and Intellectual Resources—She was disoriented for time, place, and person. There were marked defects in memory. Retention, general information, speech, and writing, etc., could not be determined owing to the serious physical condition of the patient.

Physical Examination. The patient showed characteristic findings of pernicious anaemia with typical lemon colored skin and sclerae. Blood findings were those of pernicious anemia. 780,000 R. B. C. 2,800 W. B. C. 14% hemoglobin. Very marked difference in shape, size, and staining properties of R. B. C. Few nucleated R. B. C. seen. Systolic murmur over the apex. Splotches over the hands.

She had a definite Babinski, ankle and patellar clonus with increased reflexes on left side. Sensory loss in both legs. There was also loss of vibration sense and sense of position.

Course in the Hospital. Patient was admitted in a state of collapse. She grew progressively worse and did not respond to treatment including transfusions of 400 c. c. blood. Death occurred one week after admission following the development of bronchopneumonia. The treatment of

psychoses with pernicious anemia and posterior combined degeneration of the cord is essentially the same as the treatment of other forms of pernicious anemia. Liver extract is used in somewhat larger doses, and Vitamin B₁ seems to be a valuable additional drug, but the other steps in



FIG 35—Medulla $\times 10$ (Von Heumen stain—modification of Weigert) Showing scattered areas of degeneration. (Courtesy of Hugo Mella, *Biennial Report, Colorado Psychopathic Hospital, 1925-26*)
Diagnosis—Sub-acute combined degeneration

management are those recommended in the standard works on medicine

Summary. Mental disorders in this group include conditions which depend upon some physical disturbance or somatic disease. Under this heading The National Committee for Mental Hygiene reports 936 cases distributed as follows: Total 2.81% of the entire group of mental diseases (a) Delirium with infectious disease such as—Typhoid fever, smallpox, malaria, pneumonia, etc., 19.76% (b) Post infectious delirium following influenza, septicaemia,

etc., 16.77% (c) Exhaustion delirium as is seen in prolonged debility from wasting disease, cancer, tuberculosis, etc., 20.83%. (d) Delirium of unknown origin, 8.01%. (e) Cardio-renal Disease, 13.88%. (f) Disease of the endocrine glands, thyrogenous and pituitary disorders, 3.84% (g) Other disease conditions not specified, 16.88%

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CHAPTER VI

AFFECTIVE REACTION TYPES (MANIC-DEPRESSIVE PSYCHOSES)

I. INTRODUCTION

It was the descriptive genius of Emil Kraepelin and his painstaking working over of a wealth of clinical material that finally placed manic-depressive psychosis on a secure clinical basis. Without the Kraepelinian foundation it is doubtful whether psychiatry could have ever reached its present stage of subjective inquiry into the psychopathological mechanisms of manic-depressive states nor could it have had adequate direction for research along organic lines.

Scope and Importance. The destructiveness of the manic-depressive psychoses, and what is even more important their interference with human productivity and happiness, cannot be statistically measured. Only a decade ago, there were in the public hospitals of the United States more than 40,000 patients suffering from the manic-depressive psychoses. The annual rate for first admissions is in excess of 11,000.

Even these high figures do not convey an adequate conception of the enormity of the medical, public health and social problems which arise. For every patient sent to a mental hospital for treatment the practicing psychiatrist probably has under his observation three or four others, who are exhibiting varying degrees of affect and mood disorder.

II. ETIOLOGY

A large number of statistical studies would seem to indicate that manic-depressive occurs more frequently in the

female, that it is extremely common in urban negro women, that the peak of its incidence is attained in women during the fourth and fifth decades and somewhat later in men, that it is more prevalent in cities than in rural districts; that it is more common in the foreign born than in the native population and, finally, that the Jew is relatively frequently afflicted with the psychosis

Perhaps our etiolog^{ical} knowledge may be summarized in the statement that manic-depressive springs from a constitutional basis which has its roots in inheritance and that the psychosis appears in certain predispositions which have been fairly well delineated. In one-fifth of his cases Vogt was able to determine the existence of the psychosis in one of the parents and in 35% of his cases it appeared among the siblings of the patient. Kraepelin and Reiss both emphasized the predisposition and in 60% to 80% of their patients they were able to discover depressive, manic, irritable and cyclothymic prepsychotic make-ups. Pollock, Malzberg and Fuller state, "There appears to be, therefore, a familial basis for the development of mental disorder in many cases, though the underlying laws of their manner of transmission are not yet understood."

Modern investigations have led to the recognition of the potentiality or predisposition to manic-depressive in the somatic characteristics of the so-called "pyknic" habitus and in the psychological traits of the extroverted personality.

The "pyknic" bodily type as described by Kretschmer is found so frequently in those individuals who develop manic-depressive psychosis, that it deserves brief description. The "pyknic" is relatively short in stature, has a thick, short neck, a rounded, stocky and muscular build, broad face, large head and thorax. The "pyknic" readily accumulates abdominal fat. According to the observations of Gray and Ayres, in manic-depressive the larger measurements are the anterior-posterior diameter of the chest, the pelvic bi-crystal

diameter, the head length (front to back), head breadth, nose height, and all the relative chest diameters are deeper and the pelvic diameters are wider. In non-pyknic types they are smaller, the sitting height is less, the distances from ear lobe to vertex and from the roof of the nose are shorter, that is, the face relative to the skull is smaller.

III. PSYCHOPATHOLOGY

The living pathology—the distorted personality and underlying psychopathological mechanisms remain to be considered. Kraepelin commented on the frequency of dispositional deviations in individuals, who later developed frank manic-depressive reactions. He found that the 12.1 per cent had a depressive make-up, 9 per cent were manic, 12.4 per cent were irascible and “nervous”, 3 to 4 per cent cyclothymic. We have found that 24 per cent of our patients had some form of the “up and down” personality that could not be fitted into the Kraepelinian groups.

From the standpoint of the dispositional traits and personality markings the manic-depressive is in his pre-psychotic make-up more commonly an extrovert. Extroversion is in itself not in any sense abnormal but included in it is probably the potentiality of the typical syntonie and of manic-depressive itself. Predominantly, extroverts are sociable, energetic, bright and cheerful with a strong tendency to go into action. They are not reflective and their superficially intensive emotional reactions are usually transitory. Clinical experience would seem to justify the assumption that when some unknown factor which may be contained in the inheritance, in the psychopathology produced by the conditions of life, in early inhibitory reactions or, perhaps, in organic tendencies is added to the extroverted temperament, the result is likely to be a manic-depressive reaction.

In the manic predisposition there is a definite exaggeration of the extroverted qualities, labile emotions, vivacity,

buoyancy and spughtliness, a dynamic push of energy, thinking that is readily distractible, quick and faulty judgments and an easy rationalization of mistakes

The syntonics is "up and down" At the upper pole he is emotionally mercurial and seemingly a quick, ready and appropriate thinker, but not a profound one He is active, energetic and sociable At the lower pole, the syntonics is "blue," pessimistic and readily discouraged, worries a great deal, is often over-conscientious and dreads the future

Modern psychiatry attempts to penetrate underlying mechanisms of symptoms Often, the phase of mania would seem to be the acting out of a compensation for bodily inferiority Thus, a weak, undersized, awkward, unathletic and physically inferior college professor occupies himself during the recurrent manic phases of his psychosis with the boastful performance of what he considers to be great feats of strength and agility. White presents one aspect of psychopathology in manic-depressive psychosis as follows "Manic-depressive psychosis is the type of extroversion reaction That is, the patients instead of turning within themselves (introversion) try to escape their difficulties (conflict) by a 'flight into reality.' This flight into reality is the manic phase of the psychosis with its flight of ideas, distractibility and increased psychomotor activity during which the patient seems to be almost at the mercy of his environment, having his attention diverted by every passing stimulus The great activity can be understood as a defense mechanism The patient appears, by his constant activity to be covering every possible avenue of approach, which might by any possibility touch his sore point (complex) and so he rushes wildly from this possible source of danger to that, meanwhile keeping up a stream of diverting activities He is at once running away from his conflict—into reality—and trying to adequately defend every possible approach. On the other hand, a study of the manic produc-

tions will disclose the fact that they refer to, they reanimate, so to speak, longed for situations of the past, the memories of which have been repressed. So in this sense the manic is an ambivalent reaction, rushing into reality on the one hand, but on the other developing, under the cloak of hyperactivity and flight of ideas, a wish fulfilling drama in which the forbidden thoughts come to expression.

"The manic-depressive psychosis is seen, therefore, not to be characterized so much by the nature of the difficulty (conflict) with which the patient has to deal as by the way in which he deals with it. This method I have described as a 'flight into reality,' which is the characteristic of the manic phase, while the failure to deal adequately with the difficulty is manifested by the depression of the depressive phase. In depression the defenses have been broken down and the patient is overwhelmed by a sense of his moral turpitude (self-accusatory delusions)."

Freud stresses an analogy between normal grief and mourning and pathological depression, the chief difference being that in pathological melancholia the loss of the love object is unconscious. "In mourning the attempt to distract the libido from the lost object are made in the unconscious. In pathological depression the conflict of love and hate, in which the one seeks to maintain the other—to break off the libidinal objectives, takes place in its same mental system. But in mourning the road to consciousness is open, whilst in melancholia due to a concatenation of factors that invoke repression, this path is closed. It is only after the conflict has taken its repressive turn that the repressed enters consciousness in that form which descriptive psychiatry has considered the disease itself, but which psychoanalysis has proved a restitution attempt on an oral narcissistic basis."

Mourning ceases when the mourner succeeds in severing the bond between himself and the love object. He is then able to turn to the compensations of reality. The trans-

formation of pathological depression into elation or mania has scarcely been satisfactorily explained.

Freud's more recent pronouncements take into account the id (the great reservoir or instinctual energy), the ego (the adaptation mechanism), the super-ego (practically the censor of the ego) Melancholia is pictured as a conflict between ego and super-ego (ego ideal) Oberndorf writes that the super-ego "has taken possession of the entire sadism of the individual, rages against the helpless ego, that acknowledges its guilt and submits to punishment "

Psychoanalysts have given much attention to the psychopathology of the manic-depressive states but the value of their contributions is open to question and the best evaluation of this comes from within the analytic group Fenichel states, "The studies made have yielded much fundamental information with regard to the earliest evolutionary stages of the ego and libido; but as regards the theory of the disorder itself our knowledge is still incomplete and many problems still await solution . Many psychiatrists have believed that the manic-depressive psychoses are inherently incapable of being understood through empathy, and that these disorders therefore cannot be reduced to psychological terms Indeed, this view was defended more tenaciously in regard to the manic-depressive psychoses than in regard to schizophrenia Yet, somatic research has revealed as little in the way of positive findings for the one group as for the other There are, indeed, only three considerations that caution us not to overrate the etiological importance of the psychogenic factors (1) The strict periodicity which characterizes the alteration of mood particularly in the most typical cases, this periodicity appears to be independent of any external event and to indicate the operation of a biological factor (2) In no other neurosis is there such definite evidence of hereditary transmission (the same state recurring in successive generations), which also indicates a

biological basis for the reaction (3) Even in cases where the course is not markedly periodic the spontaneity of the mood alterations which occur without apparent external precipitating cause is against their being purely psychogenic " He indicates, however, that further investigations of and understanding of the psychogenic element are needed.

The results of physiological and biochemical studies have been inconclusive McFarland and Goldstein have made a careful survey of the biochemical studies and state, "There appears in general to be evidence of a tendency for the manic-depressive to have slightly increased blood sugar, for the cases of acute depression and melancholia to be defective in their sugar tolerance, for the manics to have a slightly increased blood calcium and for the lipoid values to be rather high in the manic depressive The disturbed carbohydrate and lipoid metabolisms are perhaps the most striking findings "

There may be albuminuria and other pathological urinary findings diminished or absent hydrochloric acid (in depression). A high basal metabolic rate has been repeatedly reported Torsten Sonden found a leukocytic increase in mania especially at the beginning of the phase, in some cases a temperature and pulse rise during mania and again particularly at its inception, a definite erythrocyte increase during the transition from normality to either excitement or depression and a fall under reversed conditions, i e, transition, back to normality and the blood pressure higher both in mania and depression than in quiescence Rothschild and Malamud studied the blood-cerebrospinal fluid barrier and found in thirty-five per cent of the cases bromide distribution ratios which were below 2.8 and hence indicative of an increased passage of bromide into the fluid The low bromide determinations were especially common in depressed patients and in those with severe and protracted disease course, notably in agitated depression Henry made careful

roentgenologic observations in manic-depressive patients and concluded that definite changes in visceral function occur in manic-depressive psychoses, in the manic phase, the position of the viscera is from one to two inches higher than in the depressive phase, hypomanic patients present a marked increase in visceral tension and motility, in manic patients visceral function has already passed the limit of acceleration and begins to be retarded, depressed patients present a marked decrease in visceral tension and motility, gastrointestinal hypotonicity and hypomotility are most exaggerated in those depressed patients who are described as being retarded, hypochondriacal, confused or perplexed, the average time required for a hypomanic patient to evacuate a bariumized meal is 47 hours, the average time required for a depressed patient to evacuate a bariumized meal cannot be determined since 68 per cent of these patients retain barium or food residue over a period longer than five days, depressed patients may retain food residue for a period longer than two weeks. The literature contains few long term serial studies of manic-depressive patients and there are no studies in which careful daily chemical and physiologic studies have been made during the illness and during the period between attacks. In our present state of knowledge the variations noted would appear to be the result of the emotional and autonomic instability encountered during the illness and there is no evidence to support a contention that the above changes play any etiologic role. Studies in endocrine therapy of the depressions have failed to reveal any evidence that a lack of endocrine secretions play a significant etiologic role or that their administration is of any value in the treatment of the manic-depressive states or the allied depressions.

Pathology Organic—Even though specific and constant findings are wanting it would nevertheless be a mistake to believe that manic-depressive is without benefit of associated pathology. Lewis, Freeman and others have found in

Lange	Wexberg	Benon	Mejer	Gallspie	Harrowes
(a) Endogenous melancholia	(c) Cycloid group	(a) Depression with delusional formation	(a) Constitutional depressive group Appears in those of pessimistic temperament and there is often anxiety. Often recover but tend to recur	(a) Reactive depressions Prominence of psychogenic factors. Thinking difficulty thought centered on affective condition, reduction in motor activity, sense of effort, more depression than anxiety, environment is blamed. Occurs in quiet shy, sensitive, worrimented personalities	(a) Reactive depressions Becomes depressed because of emotional life situation and continues to react to it in the psychoses. Depression, lack of concentration, and interest in life, loss of thought capacity, increased sense of effort, headache, forgetfulness
(b) Psychogenic depression	(b) Schizoid group	(b) Depressive without delusion	(b) True melancholia ("unjustified depression") Insomnia, pre-cordial pain, self-depression and guilt ideas, inability, indecision retardation. Later, delusions, hallucinations, fear for self and family, suicidal impulses, loss of feeling, stupor. May recover but tends to pass into pre-senile depression with hypochondriacal delusions, shallow affect and peevishness	(b) Autonomous depressions Self accusation, often remorse. No variation in depth of affect in response to intermittent stimuli. Heredity worse than in reactive type	(b) Autogenous depressions More complete "personal" reaction, much "guilt" and self-accusation and the affect embraces and involves much more of the total personality of the individual
(c) Psychically produced melancholia	(c) Constitutional group	(c) Depressive stupor	(c) Neurasthenic malaise Prolonged course. There is dissatisfaction with the performance in life either referred to self or due to pressure of bad luck or as a hypochondriacal handicap. Often passes on to schizophrenia or paranoid types	(c) Hypochondriacal-unvolitional Personality similar to reactive group. Chiefly marked by "flatness" or impoverishment of affect and psychic activity	(c) Recurrent depressions Much like the autogenous but notably recurrent with guilt, self-accusation hypochondriasis, agitation in the pre-psychotic personality there is apprehension and worrying and even in early life equivalent fatigue reactions
(d) Reactive melancholia	(d) Cycloid-schizoid group		(d) Depressive delirium Massive fear often stimulating suicide. Nihilistic ideas		(d) Psychoneurotic depressions Included here are certain of the anxiety and obsessive compulsive reactions in which there was genuine depression, the anxiety type is the more important and in addition to

various shades of anxiety, inquietude, anxiété, angouisse (an acute syndrome with pallor sweating tachycardia and fear of imminent death) there is apt to be "some personality indications of psychopathy," definite evidence of neuropathy (enuresis, etc.), pre-psychotic anxiety attacks or similar phenomena (sweatings, dyspneas, panics), a topical depression of the nature of appreciation of a more or less genuine failure in life, sex trauma, unreality feelings, and notably a subjective depression, greater than the objective,"

(e) Depressions with aversions Here, is to be observed an averse, "offish," reaction, a placing of the blame upon the environment It is not a shrinking away from the traumatic factor as in the reactives, but "it is more of a turning away," there is no retardation, self-accusation, or guilt, but there may be agitation

§ Involuntional types

(e) Katatonic melancholia
Occurs sometimes acutely with hallucatory commands to "be good," with simple acts symbolic of penance, humility and abasement often becoming stereotyped May be a schizophrenic-paranoid episode

(e) Involuntional Group

autopsy and neuropathological studies evidence of over-compensation in the cardio-circulatory system, hemorrhages into the thyroid gland, adenomatous tendencies in the pancreas, pituitary adenoma, hyperplasia of the cortex of the adrenal and punctate hemorrhages, pituitary atrophies, large testicles and in general an increase in the size of the endocrine apparatus. Contrasted to schizophrenia, tuberculosis is quite infrequent. Generally speaking, the physical characteristics indicate a somatically dynamic individual.

IV SYMPTOMATOLOGY

To avoid confusion the manic-depressive psychoses will be discussed under the heading of (1) the manic reactions, and (2) the depressive reactions. It should be borne in mind that many persons suffering from this type of disorder show both manic and depressive symptoms. A typical case history of this type of patient will be presented in a later section. The literature on the manic phase is surprisingly scanty when one considers the tremendous number of individuals incapacitated by manic attacks. Those authors writing on the subject, however, are in fair agreement as to the classification, symptomatology and method of treatment during the acute stage of the disorder. There is an abundance of literature on the depressions and the classifications used are almost as numerous as the authors writing upon the subject. Many of the subclassifications presented would appear to be a separation of patients into varying sub-groups because of variations in symptomatology. It is impossible to present all of these classifications in detail. The accompanying chart presents six of them. These six were selected because they are the ones most commonly used, and in the author's opinion any one of the six can be efficiently adapted to clinical practice. For purposes of simplicity and clarity the discussion of depressions will be presented according to the classification of Gillespie.

Before proceeding to a detailed discussion of the symptomatology of the manic-depressive states we should like to re-emphasize the fact that there are all degrees of variation from normal in either the direction of overactivity and stimulation or to retardation and slowing (See Figs 36 and 37). In certain instances there is a peculiar mingling of overactive and retarded states which can be understood only in terms that consider this group of reactions as one disorder with widely varying clinical manifestations. A retrospective viewpoint of Kraepelin's mixed states of manic-depressive make it exceedingly likely that he was led astray by his devotion to classification. He listed the following main groups

- 1 Maniacal stupor
- 2 Agitated depression
- 3 Unproductive mania
- 4 Depressive mania
- 5 Depression with flight
- 6 Akinetic mania

With the exception of agitated depression and possibly maniacal stupor, mixed states seem to be clinical episodes, often appearing as transition phases of the disease. Agitated depression is so closely akin clinically to involutional melancholia that it will be described under that heading.

The accompanying diagrams are helpful in understanding these mixed states. Thus, the mixed states may be theoretically understood by making various transpositions of the unit symptoms, emotion (E), ideation (I), and motor activity

Maniacal stupor	Agitated depression	Unproductive mania	Depressive mania	Depression with flight	Akinetic mania
E	I M	E M	M	I	E I
I M	E	I	E I	E M	M

(M), above and below a normal emotional-ideational-motor line. The possibilities are almost endless, but for practical

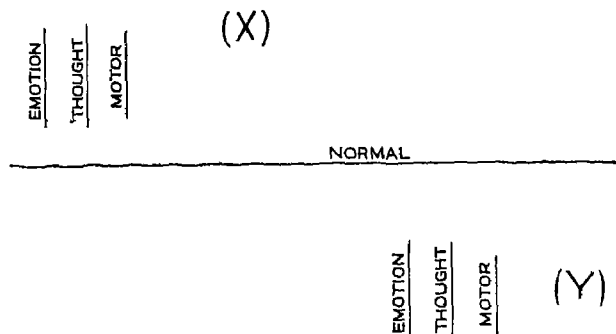


FIG 36.

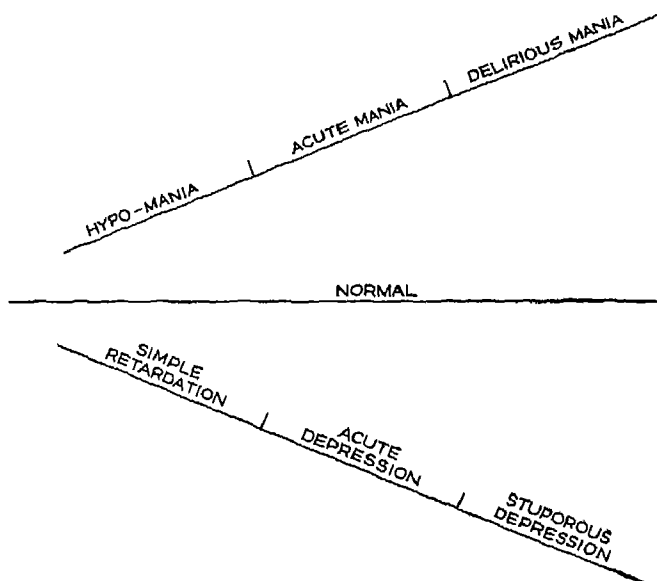


FIG. 37 —Illustrating variations in the intensity of the symptoms in manic-depressive psychosis

purposes, the diagram pictures those that are likely to be encountered in actual practice. For example, in maniacal

stupor there is emotional exaltation, slowing of thought and decreased motor activity. In pure mania all factors are well above the "normal E. I. M. line", and in pure depression the reverse is true.

An excellent example of a mixed case showing both manic and depressive swings is found in the following history from a true case of so-called "circular insanity."

Illustrating depressive (retardation) and acute manic phases, the combination constituting true circular insanity

Elizabeth T. is now in her forty-seventh year.

Family History.—The family comes of sturdy New England stock, though the paternal grandfather, who died of chronic Bright's disease was erratic and violent tempered, the mother is "rather emotional" but capable, the father who was phlegmatic and normal died of cerebral hemorrhage at 75, a brother and sister are sound in mind and body and a son of the patient is bright, ambitious and healthy.

Personal History.—Elizabeth graduated from High School at 18 and was married to a successful, considerate man at 21. During girlhood and early maturity she is described as capable, considerate and economical, quick-tempered but as ready to forgive; social, fond of outdoors but inclined to be an extremist in pleasure and in work. (Manic temperament?) Married life was agreeable and interesting, traveling for some time on the continent and living for five years in South Africa. Physically, there is an indefinite childhood record of "chronic heart trouble"; frequent attacks of "malaria" from 14 to 19, at 31 coincident with an eight months miscarriage, severe scarlet fever occurred, complicated by septic infection and leaving as sequels, arteriosclerosis and chronic nephritis, a head trauma followed by unconsciousness for an hour, four months before the onset of the psychosis.

History of Present Illness.—Mrs. T.'s mental disease began in 1915. A portion of the husband's careful account may be

advantageously quoted. "In the beginning my wife became 'blue' and remained so for about three days. During the following nine months the melancholia manifested itself monthly and its duration was lengthened from several days to two or three weeks. There were no suicidal attempts but she wished to die. She refused to see anyone; to speak, eat or dress and slept only a few hours daily. She feared I would lose my position and was economical to a fault (depressed phase). Between melancholic states she was normal (quiescent periods). During the next nine months there were active periods, preceding the depressions, lasting about three weeks (first sign of circular tendency) and followed by normal intervals of a week each. During the excitement she was exhilarated, sang and danced, spent money recklessly, gave extravagant gifts, wanted to entertain lavishly, talked incessantly, made unreasonable demands and resented any advice or restraint" (manic phase with emotional exhilaration and ideational and psychomotor drive).

Mrs T. was admitted to the hospital in July, 1917, and since that time the psychosis has been running a true circular course of alternating depression (retardation) and mania, the phases averaging a duration of 22 and 23 days respectively.

Physical Examination. During the depressed phase the patient looks older than her actual years, in mania she appears younger. There is beginning arcus senilis and moderate vessel sclerosis. The urine usually contains a small amount of albumen and a few hyaline casts. A spindle-celled sarcoma has been removed from the broad ligament. Repeated examinations of the nerve and endocrine systems, blood smear and Wasserman, kidney function, blood chemistry, and basal metabolism, have all been repeatedly within normal limits. There is, however, a striking relationship between blood pressure and emotional reaction. The average systolic pressure during a depression is about 175 mm of Hg while during mania it is about 200.

Just before the onset of excitement there is a sharp rise of 40 points and often more and retardation is ushered in by a corresponding decline. Not only this case which has been exhaustively studied but, also, the observation of others, make it seem not unlikely that the current impression that the blood pressure is low in mania and high in melancholia is unfounded.

Mental Examination. During the depressive phase, Mrs. T. is inactive, her posture and facial expression portray dejection, bent shoulders, wrinkled brow and drooping mouth. Her speech is never voluntary and her replies are almost monosyllabic. It is apparently an effort for her to move with ordinary rapidity (psychomotor retardation). She answers questions slowly and after an interval of time (retardation) in simple language (poverty of ideas) and seems relieved to be left alone. She feels "very miserable" and "different," "can't be interested" (emotional depression), "don't want to move," "can't do things with head or body" (inadequacy), head is "clouded," "thick," "dull" and "confused," "mind blank," "stoppage in thinking" (possibly slight clouding of consciousness), "bowels feel horrid," "brain lacks nourishment" (indication of somatic delusional formation). There is no evidence of self-accusation. The patient is oriented; memory, retention and recall, counting and calculation, reading and recall, attention and capacity, current knowledge are impaired, not intrinsically, but dependent on the psychic retardation. She cannot recall the details of the excited phase, but is fairly clear about the events of her prepsychotic life. There is some degree of insight, "I am sick," "very sick," "my head," "all over," "my stomach and abdomen."

With the lifting of the depression, it is as if a new individual had come into being. In the words of the patient—"it drops like a curtain and rises like a curtain." We now see a woman who is a whirlwind of misdirected energy, seemingly

at the mercy of variable and rapidly shifting emotions. She passes quickly about the ward, laughing, singing, dancing, attempting to interfere with the care of other patients (psychomotor activity). Any attempt to curb her happy activity calls forth a torrent of coarse abuse, threats and even actual violence. Often like a mischievous child, she may change suddenly, as when the nurses seek to dissuade her, and then she may try to choke them or kick, bite and scratch like an infuriated animal (mercurial affect). Not infrequently she will break the dishes on her tray and smash panes of glass (uncontrolled motor activity). If left alone in her room it is, in a few minutes, in a state of chaotic disorder, crudely drawn sketches soon adorn the walls and the patient has arrayed herself in the most fantastic fashion. For instance, "she has a head dress made of grapefruit rinds, feathers and red cord from a torn bathrobe. Arms, legs, pelvis and bust are bound with red rags and feet with white" (self decoration). She is singing, dancing and shouting, "I'm a copper colored maiden." Often the patient is nude. Untidiness is the rule. If not prevented, she will void urine on the floor and smear it on the walls (regressive tendencies). There is distractibility of attention and the speech reveals the widest range of pathological ideational over-activity. The constant stream of words shows the influence of external and internal associations, sound association, neologistic (new word) formation and flight of ideas. In five minutes the patient introduced eighteen widely divergent subjects and was then further away from the goal idea than at the beginning. Usually, the productions are interlarded with indescribable profanity and obscenity. Occasionally, speech may become incomprehensible and a jumble of hoarse, indistinguishable sounds indicates that a crescendo of incoherence has been reached. "Sweetheart and lieber schatz, also your old fuzzy son of a yard, I mean field, come to me, a violent lunatic calls, balls, she is suffering from lunatic

or chronic, crazy, catitius Will you and come to a Hallowe'en party dinner and dance at 5.30 to 9.30 P. M. There will be at least 100 crazy loons and 100 nurses, also your friends from the east, also your former enemies. Mr. B. has fallen Louis will bring a zether player, a glass of wine, some angel cake and you—music that I heard with you was more than music—bread that I broke with you was more than bread. Meta" (flight of ideas, sound · association, distractibility, neologistic formation)—numerous plans are spoken of, trips, lavish entertainments, dinners, publication of books, newspapers, etc. While the usual mood is one of boisterous happiness, the most casual incident serves to change the picture and in the facies, ideational and motor activity may be witnessed a veritable kaleidoscope of emotions—euphoria, exhilaration, exhaltation, boastfulness, pride, irritability, anger, hate, murderous rage The patient is grandiose "owns the world" and designs "wonderful" complicated and impossible inventions There is, occasionally, a curious hallucinatory (possibly illusional) delusional trend with a basis of erotic fancies. There are snakes in the room, the physicians force her to take aphrodisiacs, strange men come to the room at night to seduce her. During the manic phase eroticism is to the fore. Consider the difference in the associations, when depressed the patient was presented with the word—stimulus, "love," she answered after a four second interval "your family"; during an excitement she replied immediately, "If X would come up here tonight, I'd uncover quickly enough" Relatively, the sensorium is clearer during the active state. "My mind is clearer." Rarely is orientation disturbed Memory is good. Events of early life and of the whole psychosis are easily recalled. For instance, from excitement to excitement, she readily remembers the word caricatures with which she describes those who come into contact with her, but during melancholia there is no recollection of them

When the hyperactivity does not preclude testing—retention and recall, counting and calculation, reading and recall, school, general and current knowledge are not seriously impaired. There is also voluminous writing, blotted and untidy, capitalized, underscored and illustrated by crude drawings. Insight is very defective and does not approach the judgment of the depression.

COMMENT

Attitude and General Behavior. In the manic phase of her psychosis this woman expresses enormous energy, distraction of attention, volubility, singing, rhyming, sound associations, profanity, obscenity, incoherence, neologistic expressions or the formation of new words that have a meaning only for the patient.

In the depressed phases, there is often very limited and difficult speech due to *retardation* or slowing of thought, *poverty of thought* evidenced by repetition of the same formula of words, mutism.

Affect and Mood—The case presented shows nicely the *mercurial-like* alterations of mood in acute mania. Perhaps the basic state is *euphoria* and gaiety but the most casual incident serves to change the picture and there is to be witnessed a veritable kaleidoscope of emotions—exhilaration, exaltation, boastfulness, pride, irritability, anger, hate, murderous rage.

In the depression there is a less flexible emotional scale but the range is fairly wide from *feelings of inadequacy* and subjective *lack of interest to acute mental agony*. Dejection, misery, and every degree of unhappiness may be witnessed. *Suicide* is a real danger. Fear is a common admixture of the depression.

Mental Trend.—*Content of thought*—*Many varieties of delusional formation*. They usually *correspond to the prevailing mood* and, the case presented did not show in any great

degree the frequently occurring grandiose delusions of acute mania—generally *inconstant and shifting and wish-fulfilling*

In the depression the delusions are more *tenacious* and with a *melancholic content* (ideas of personal wrong-doing, “unpardonable sin,” unworthiness, *self-accusations*, etc.) In this type case, neither of these symptoms were present but depressed patients accuse themselves of the greatest variety of wrong-doing, often referred to sex practices earlier in life and, they devise and picture for themselves the most ingenuously cruel punishments and tortures. *Hypochondriacal* and *somatic* delusions (“no stomach,” “intestines stuffed up,” “organs rotted,” “brains shrivelling,” etc.) are fairly frequent. Illusions are not uncommon. In mania they seem to be related to the severe distractibility of attention and in the depressed phase to the depressed—apprehensive affect

Sensorium, Mental Grasp and Capacity—In the case presentation the patient during the depressed phase showed slight *clouding of consciousness* and *felt confused*. Generally the orientation, memory, retention and recall, attention and capacity and current knowledge are not intrinsically involved, but if there is impairment, it is dependent upon the psychic retardation

In mania, from time to time, the orientation suffers and the consciousness is befogged but again there is scarcely an intrinsic disturbance

Insight.—Insight is usually present in some degree during the illness, though it is quite faulty. It is relatively better during the depressed phase. Then there is apt to be a subjective feeling of illness and, often a fairly good comprehension of the manic phase. Patients who have recovered may display remarkable insight and judgment concerning the nature and even details of the attack

1 *Manic Reactions*—The manic states are usually divided into hypomania, acute mania and delirious mania according to the severity of the symptoms.

(a) *Hypomania* Manifest by a push of speech and motor activity, productions usually coherent and relevant but greatly increased in verbal quantity and often tinged with facetiousness. Patients usually boastful, optimistic and aggressive. Attempts to curb their enthusiasm or dilute their expansive plans bring outbursts of irritability. In spite of this behavior many of these patients get along outside of an institution but are a source of annoyance to their families and fellow workers. In our experience we have seen a few cases who have successfully launched business enterprises, charitable organizations or who have sold large quantities of material during the early stage of their hypomanic reaction. Some of these patients subside into a chronic, irritable state with frequent complaints directed toward an environment which refuses to cooperate in their schemes and withholds recognition of their "true worth." Many of these patients develop paranoid tendencies because of the world's failure to accept them at their own evaluation. Still others develop chronic, diffuse, frequently shifting, hypochondriacal complaints. Many patients of this group show a hypomanic swing as a precursor to an acute manic episode.

Patient is a 29 year old, white male who came to the hospital because he was quarrelling with relief agencies, the local employment bureau, the county judge and his family. Patient comes from a broken home and the physician and the court officials were impressed by the fact that whenever the parents were brought together to discuss the boy's case, they used the occasion to renew their fighting so that nothing constructive could be accomplished through them. The boy had poliomyelitis at age 7 with resultant deformity of the right leg which necessitated repeated orthopedic manipulations. He compensated for this deformity by a tremendous drive toward excellence in swimming and riding. As a further compensation he has been remarkably sexually

promiscuous since the age of 14. He was always quarrelsome and aggressive with his parents, siblings and school officials. He was involved in repeated street brawls. He married at 21 and divorced his wife one year later. Upon coming to the hospital he was overactive, aggressive and antagonistic toward all hospital routine. He was definitely expansive concerning his ability to work and earn and rationalized his failure to succeed in terms of his deformity. He refused to cooperate in plans for the future which included work within his capacity but always insisted upon trying for positions and making plans that were far beyond his reach. He arrived at a fair degree of insight as to the compensatory nature of his trouble but left the hospital after two months with a full determination to succeed on a large scale. He was not seen for 3 years during which time he travelled about the country from one odd job to another eking out a bare existence. He returned to the hospital voluntarily showing the same expansivity, irritability and push of speech and motor activity displayed on his previous admission. He was also beginning to formulate some vague paranoid ideas centering about the social agency, his father and the local county officials. He still felt that he could attain great success if given the opportunity and blamed his lack of opportunity upon the poor cooperation of the people in his home community. He was discharged at his own insistence but his condition at the time of his discharge was essentially the same as when first admitted. Since discharge he has continued his restless wandering about the country.

(b) *Acute Mania*. These individuals require hospitalization as a protection to themselves and the community. They are overactive, combative and destructive. They frequently disrobe and are quite erotic. If allowed to be at large in the community they often indulge in alcoholic and sexual excesses, unwise investments and large purchases of useless objects are frequently made in terms of their expan-

sivity They frequently destroy their clothing and furniture, often using portions of the debris to decorate and festoon themselves and their rooms Feeding becomes a serious problem because they are too busy to eat and the food is usually utilized for smearing themselves and their surroundings Tube feeding is often necessary to combat inanition and dehydration Sleep is held in abeyance by the hyperactivity and chemosedation in large doses is usually ineffective. Continuous neutral baths and cold wet packs are necessary to control overactivity and to induce sleep The stream of thought is definitely accelerated, the patients complain of a crowding of ideas and a pressure of thought. They are distractible, there is an almost continuous stream of conversation and the progression of thought shows rapid shifts from one topic to another These shifts are in terms of events in their environment distracting them from their original theme This rapid shifting is called flight of ideas These patients are usually obscene, profane and erotic They laugh uproariously at their own jokes The mood is one of definite elation When thwarted in their activity they respond with sudden and spectacular outbursts of rage, but they can be easily distracted into a good humored vein There is a progressive weight loss due to the hyperactivity and inattention to feeding. The excretory systems function normally but the excreta are passed promiscuously about the ward and are often used for decoration of themselves or the walls of their room Sleep is postponed in terms of their hyperactivity, but if put to sleep by prolonged, continued baths or by a large dose of some quick acting hypnotic such as paraldehyde they will often sleep 2 to 5 hours Some of these patients will go for several days without sleep in spite of prolonged hydrotherapy and large doses of chemosedation. Hallucinations and firmly held delusions are uncommon When they occur they are usually of an expansive wish fulfilling type The patients

are hyper-oriented and within a few hours will have an unusually detailed knowledge of their fellow patients, ward personnel and the general policy of the institution. Their criticism of the institution, its management, and its personnel are offered freely, frequently and in great detail. Elaborate schemes for reorganization and rebuilding are tendered almost daily. The patient's grasp of general information, memory, retention, etc., are well preserved but examination of these systems is difficult because the patient is continually distracted from his task to some casual but more interesting environmental activity. Insight is often present to the degree that the patient realizes he is overactive, stimulated and in many instances they state flatly that they are "a manic."

The following is a fairly typical example of an acute manic episode. Patient is a 25 year old, white female who came to town in an aeroplane, registered at the best hotel, ran up very large bills, drank excessively and was taken to jail following an argument during which the patient became very profane and abusive. Upon admission she was overactive, elated and erotic. She would disrobe, destroy her clothing and break windows on the slightest opportunity. She engaged in frequent temper outbursts when refused special privileges, visitors, the use of a long distance telephone, etc. She showed definite flight of ideas and distractibility. She was usually expansive and euphoric. During the admission note she stated "they are all perverts. I caught my husband and his mother together. Imagine that. I've got witnesses. You know I have had a lot of money. I've put out a lot of money. We are well known in ———, and I think I have a lot of sex appeal. What do you think of the body? I'm pregnant. I want to be pregnant. I almost hemorrhaged to death but that doesn't make any difference. How about you? Are you married? I'm interested." Patient spent her days in singing, yelling and swearing. She would play

practical jokes on nurses, patients and then laugh uproariously. One day after breaking a window she wrote the following poem, "The sound of glass rings through the hall, The patients are in a panic, The nurses say, don't worry girls, It's just our little manic " She also wrote a large notice in red ink which she pasted on the door of her room which stated, "Doctors may now enter the ward without having their pockets searched Nurses will be able to chat without being interrupted every five minutes and I the undersigned will not have to lose my temper every five minutes. Reason for aforesaid, I have quit smoking P S (That is, cigarettes), signed A A " Patient was treated with prolonged tubs and packs and was kept from the other patients and away from stimuli as much as possible In spite of this she would sleep only 2 or 3 hours a week and ate very little She began to lose weight very rapidly She was placed on sleep therapy for ten days. Enormous doses of barbitol, up to 80 grains daily, were necessary to keep her asleep She was fed by means of a stomach tube during this interval Upon awakening she was still definitely overactive and euphoric but was sufficiently cooperative to be at large upon the ward. She took an active interest in occupational therapy, her first work was a series of large and gaudily colored paintings which were cleverly executed but showed little attention to details. As she continued to improve this project was given up in favor of exquisitely drawn pen and ink sketches of country homes These plans were complete with architectural drawing and detailed directions for construction and landscaping In a short period of time she made a series of these for various physicians and nurses and their quality compared favorably with that of professional architects although she had had no training other than college art classes The next phase in the development showed a marked interest in needle work in which she worked out conservative but original patterns Concomitant with

the improvement of her occupational therapy, her sleep, appetite and ward conduct improved until she was discharged 105 days after admission. At the time of her discharge she had a fair understanding of the events leading up to the present difficulty. They may be summarized as follows. The patient is the oldest of three children. Her mother died when the patient was five. Her father was a wealthy oil promoter and the patient was raised in fashionable boarding schools and spent her summers with her father in a hotel which he owned. The father died when the patient was 18. He left her a large fortune. In 1932 she was engaged to be married and just prior to the wedding her fiancé was murdered. Within a few days of his death patient's brother died during a drinking bout. His death was attributed to suicide but the patient and many of his friends believed he was murdered. Following this there was a period of depression. This depressed episode required 5 months hospitalization. She got along well for the next nine months and then married a person who was both intellectually and socially her inferior. The present illness developed four months after marriage and following a period of marital discord due to the husband's lack of push and his inability to emancipate from his mother.

Following discharge from the hospital patient separated from her husband and there have been no recurrences to date.

(c) *Delirious Mania*: This term is used to describe those patients who are so tremendously stimulated and distracted that they are unable to talk coherently or complete any initiated motor act before they are distracted to the succeeding one. There is such a frenzy of activity that they lose contact with their environment and physical exhaustion must be combated to prevent collapse with complicating cardiac and respiratory difficulties.

The manic episodes tend to occur in periodic attacks which last from approximately three weeks to a year or more.

Patients showing a hypomanic reaction are more prone to develop a chronic state. The manic reactions tend to recur. In some patients the attacks recur at fairly regular intervals. As the patients grow older their attacks tend to become more frequent and of longer duration. The frequency of the attack varies greatly, some patients having only one or two attacks in a lifetime while others may average one a year. It is our belief that careful supervision and follow-up care during the interval can do a great deal to lessen the frequency of attacks.

2. *The Depressions.*—The literature on the subject of depression abounds with studies on alterations in physiology occurring with the depressed state and there is a great deal of discussion as to the efficiency of various chemical and endocrine preparations in the treatment of these states. These studies have been worthwhile and have contributed materially to medical knowledge. There are also numerous classifications of the depression, some overly simplified and others making a new sub-group for each symptomatic variation. For purpose of organization and simplicity the depressions will be discussed following the outline of Gillespie under the head of (1) reactive depression, (2) autonomous depression, and (3) hypochondrical-involuntional.

1. **Reactive Depression.** This group of depressions is usually classified under the psychoneuroses but it is our feeling that the primary difficulty is in the sphere of affect and for that reason they are included in this section. The pre-psychotic personality is usually described as sensitive, shy, seclusive, pessimistic and worrisome. The patients feel a sense of effort in thinking, and carrying out their routine tasks. There is both objective and subjective evidence of retardation, but it is not marked. The affect is definitely depressed in terms of certain psychogenic factors. These factors may be financial worries, marital difficulties, death of a loved one, ill health or a combination of unpleasant

environmental stresses. Attempts to discuss these factors will produce definite objective signs of a depressed mood. A discussion of neutral subjects or diversion by occupational therapy will produce a rather spectacular lightening of the depression. The patients do not have hallucinations or delusions but they tend to project the cause of their depression upon certain environmental events. Suicidal preoccupation may be present but overt suicidal attempts are rather rare in this group. The somatic symptoms show a loss of appetite, decreased sex drive, sleep disturbance usually of the early morning awakening variety, a tendency to constipation, moderate weight loss and a tendency to neglect personal appearance. BMR, pulse rate and respiration are usually within normal limits. The sensorium is well preserved and judgment and insight usually present. Certain individuals suffering from a reactive depression show a marked preoccupation with their body and its function. The majority of these individuals first consult with their family physician because of these complaints referable to faulty organ function. Hurried diagnosis or incomplete clinical and laboratory studies frequently results in unnecessary surgery. The present interest of the surgical group in psychiatry centers about methods for detecting these reactive depressions and the psychoneuroses in order that they may be spared the embarrassment of the removal of structurally normal organs that are showing a temporary malfunction due to neurotic and affective mechanisms.

2 **Autonomous Depressions.** This group referred to as autonomous depression, autogenous depression, endogenous depression, etc., contains the severe depressive reactions. It is our feeling that this group of severe depressions merely represents the depressed phase of the manic-depressive psychoses and that the so-called tension depressions, catathymic depressions, agitated depressions, etc., are merely symptomatic variants in terms of the patient's previous

personality and experience. We find that sub-classification into symptomatic minutae offers little clinical aid because each case must be studied individually and treatment planned according to the individual's need. If this drive for classification was applied strictly to all cases carefully studied each patient would be in a group to himself. The severity of the symptoms vary from simple retardation to acute depression and stupor.

(a) *Simple Retardation*—Patients complain of being slowed up in thought and act. There is objective evidence of sadness and retardation. The mood is expressed as depressed, sad or blue. These symptoms are not marked and are often replaced by expressions of being dejected, defeated or exhausted. Patients tend to blame themselves but feel that there is no true explanation for the illness. Sensorium is clear. Biologic disturbances usually minimal and are similar to those described above. In many cases this is a transition phase to a deeper depression. The following case is a typical example of simple retardation.

CASE 35. Simple Retardation. A young woman, now 29 years old, well born and intelligent had all her life severe inferiority feelings. She was the only child of parents, rather well advanced in middle life when she was born. Her father retired from business when she was a child and, she recalls feelings of acute shame when other children asked what her father did. The home was materially satisfactory, but she was never encouraged to bring other youngsters into the house for play and when she did she felt that it disturbed her parents. Consequently she was much alone and made few friends. As she became older, she did not have the social advantages to which her family position entitled her, largely because her parents did not make the necessary effort. An aunt did something for her and took her away during the summer. Here again there were very few young people

and very little social life. About a year ago, the patient had her first and only love affair, which was abandoned because of the opposition of her parents. Following the breaking of the engagement there was a three months period during which she felt "fine," accomplished a great deal and was on the "top of the wave." She had, however, sufficient control of her behavior so that mental disease was not suspected by anyone. Following this, the patient entered the depressive phase.

Mental Picture—At the present time she is depressed but not to any profound degree. She is not conscious of any strong subjective feeling of sadness or melancholia, but feels defeated and dejected. This is clearly expressed in her physical manner and bearing. Her gait is hesitating and her shoulders are slumped. Life looks hopeless to her and she feels overwhelmed by her own inadequacies. Her mind feels "heavy" and while she answers questions readily enough, yet her vocabulary has become limited and often she is monosyllabic. She does not see how she can ever rally herself nor again feel satisfaction in life. She is not definitely self-accusatory but speaks of it being her own fault and more or less vaguely of "neglecting opportunities." She goes through the schedule of her daily routine without complaint but confesses that it is like "dragging a heavy weight."

Such is the picture of simple retardation. In these patients the lowering of the emotional tone is readily recognized in attitude, manner and bearing. There is little interest in the environment and there is a sense of dejection and failure. The anticipation of small affairs is overwhelmingly difficult. Thinking processes are slow. Speech is limited. Frequently there is initial retardation. Usually there is a strain of self accusation, scarcely prominent enough to be delusional. The time reaction of motor movements is

lengthened The sensorium is clear and the environment readily apprehended. Generally speaking, the depression seems less pronounced than the psychic and motor inhibition.

(b) *Acute Depression*—In this phase we have marked behavior anomalies, patients neglect their persons and present a dejected, melancholic, stooped, disheveled appearance They take little interest in environmental happenings although they seem acutely aware of what goes on about them Some patients will stand or sit in a markedly hypotonic position while others show motor agitation with restless pacing, wringing of the hands and picking at themselves In some cases this is carried to the point of self-mutilation Suicide is an ever-present danger and the patients often make desperate attempts to achieve self-destruction. Some individuals seem to purposefully select painful methods of suicide such as extensive self-mutilation, setting fire to themselves or similar acts of violence The patients are usually negativistic. The stream of mental activity is markedly slowed. They complain of difficulty in thinking, spontaneous productions are almost all colored by their depressed content and these productions are markedly decreased in quantity Psychomotor activity is sharply reduced and there is objective and subjective evidence of retardation The affect shows a fixed mood of depression and hopelessness with appropriate biologic concomitants There is a refusal of food necessitating forced feeding or tube feeding to insure proper nutrition Sleep is disturbed, the patients tending to awaken around 2 or 3 A.M. Constipation is an ever-present problem Sex drive is absent and in many instances there is a cessation of menstruation during the period of depression Evidences of weight loss and dehydration are present if the nursing care is lax In some instances there is a lowering of the BMR and a blood pressure and pulse and respiratory rate that are all below normal Patients express feelings of guilt, blame themselves for their troubles

and frequently feel that they are to blame for the troubles of the world. They often express ideas of having committed unpardonable sins and in some instances they will fix upon some minor deviation from morality indulged in many years before. Delusions of incurable diseases are common. The patients often believe that various segments of their body are dead, have decayed or disappeared. Somatic hallucinations are common and auditory hallucinations of a self-condemning, depreciating type are encountered. Olfactory hallucinations of foul odors emanating from their own body are sometimes expressed. Sensorium is clear but a detailed examination is obtained only with perseverance because of the slowing and the patient's lack of interest in the test. Insight which is good during the initial phase of the illness disappears and the patient is "certain" of his degradation and helpless predicament.

CASE 37 Acute Depression. A woman, 26 years old, became depressed following the death of a favorite niece from puerperal septicemia due to attempted abortion. The early history of the patient is somewhat interesting. She was of Irish, Catholic ancestry. She had only a minimum amount of public school education and then earned her living in a glove factory. The family felt that Sarah had an unfortunate disposition. She was "nervous," pessimistic, worrisome, apprehensive and over-conscientious. At the age of 18 she married a man of her own station in life, who treated her well, and they were congenial and happy.

There are two noteworthy aspects in the pre-psychotic history. The first is a distinct tendency to thyroid toxicity. At the age of 20, following childbirth, there appeared a fullness of the thyroid gland with exophthalmus and fatigue, restlessness and mental irritability. A little later a thyroidectomy was necessary. The second factor was a self-induced abortion which the patient performed at the age of 22, four years before the onset of her psychosis.

As has been stated the psychosis followed immediately upon the death of a niece from blood poisoning due to a bungled self-attempted abortion. It is evident from the patient's earlier productions that her consciousness was at once flooded with the, perhaps partially repressed, recollections of her own experience. The niece "appeared to her in a vision." The family blamed the patient for her death, her soul was "to be damned to hell."

At the present time the patient is profoundly depressed with marked psychomotor retardation. From time to time the retardation is broken through by desperate suicidal attempts. The self-accusation continues and the patient feels that she is condemned to suffer everlasting torment. Usually it is difficult to secure even a small amount of physical activity and at most there is an occasional short walk, practically under physical compulsion by a nurse. There are long periods of abstinence from food and tube feeding is often necessary. Thought processes are labored and spoken productions are sparse and usually monosyllabic. From time to time there is complaint of absence of bowel movements and this is probably the fore-runner of somatic delusional formation. The patient is now in the fourth month of her depression.

(c) *Depressive Stupor*—This is merely an accentuation of or an extreme form of an acute depression. The emotional reaction increases to the point of extreme mental agony. The self-accusation advances by leaps and bounds and the patient feels himself responsible for world-wide calamities and often outlines special forms of punishment for himself. These plans are often made in gruesome detail in order that he may expiate his sins. As the condition progresses the patient becomes mute, sluggish and apathetic. Voluntary motions cease. The patient remains in bed, requires tube feeding and is either excreta careless or retains the contents

of bladder and bowel. The patient becomes progressively weak, vascular tone is decreased and there may be cyanosis of the extremities. These patients will die of dehydration, and inanition if nursing care is neglected.

3 **Hypochondrichal-involucional or Involucional Melancholia.** These reactions are allied with the manic-depressive group and occur at the climacteric. At present a heterogeneous group of reactions, varying from depressive syndromes to early organic states, are included under this diagnosis and have only the common factor of occurring at the time of the climacteric. For this reason the involucional psychoses will be discussed in a separate group at the end of this chapter.

4 **Manic-depressive Reactions in Children.** These reactions are rare. Kasanin reported ten cases. Two were marked by kinetic disturbances, overactivity and restlessness. In eight, there were frank emotional reactions but milder than in adults. In the manic phase there were mild elations, overactivity, irritability and a push of speech, in the depressed, withdrawal, undertalkativeness, general retardation, and occasional refusal of food. The precipitating factors were quite trivial. It is in all likelihood a constitutional reaction. The prognosis is grave.

In this connection, it is interesting to note that the child suicide rate in the United States is low. In 1920, only 36 children, 21 boys and 15 girls between the ages of ten and fourteen, suicided.

In Italy, over five per cent of all suicides took place in children under the age of fifteen. In Germany, from 1883 to 1905, 964 children under the age of fifteen suicided.

V. DIFFERENTIAL DIAGNOSIS

When the clinical picture is clear, in mania the elation and emotional mercurialism with tremendous psychomotor drive

or in depression the melancholia and psychomotor inhibition and when in addition there is a history of the typical pre-psychotic personality with a longitudinal life section studded by recurrences—then the diagnosis can scarcely be missed. Often, however, these vantage points are not at hand and diagnostic difficulties may be encountered.

Even in the manic phase, the psychosis should be readily differentiated from paresis by the examination of the blood and spinal fluid and the neurological findings.

The distinction between manic-depressive and psychoneurosis is not always obvious. Manic-depressive is notably recurrent, and generally speaking there is less introspection. The psychoneurotic is much closer to the normal and has a far greater range and flexibility of emotional life. The cohesion with reality is tenacious and is not sacrificed. The psychoanalysts have expressed the same thought in these terms: "The greater variety and mutability of symptoms shown by the psychoneurotic, then, may be taken to indicate a greater mobility and range of the libido in its attempts to find satisfaction. His repertoire provides a number of ways to escape or circumvent the driving sense of guilt as well as a variety of reaction formations which will give secret indulgence to repressed or tabooed drives. The manic-depressive has usually but two types of reaction. He crams his guilt, his anxiety and his censored wishes into the depth of oblivion and plunges into activity that will preclude his remembering. He feels the elation of escape. But this cannot last, the imperfectly repressed devils rise again into subconscious memory, and he punishes himself with depressions, with self-destructive impulses. One might fancifully say that the manic-depressive libido can move only up and down in a straight line, while the psychoneurotic libido moves in a number of planes. Unlike the normal libido, however, it cannot move in all planes."

Finally, it must be remembered that various neuasthenic-like symptoms, often gastrointestinal or genitourinary, often with fatigue, concentration difficulties and insomnia may be actually camouflaged depressions. Usually the patient is less concerned about the somatic implication of his symptoms than he is about his inability to "carry on." Such neurasthenia may be the equivalent of a depression in an individual who has had previous clear-cut depressions. Harlowes may be quoted on this point.—"Fatigue may be an equivalent for depression. Even on a still more vegetative level the longitudinal section of a case showing a frank depression may allow us to accept as equivalents previous spells of loss of weight, of wakefulness, of gastrointestinal retardation, of indecision, morning tiredness and so on." And Meyer,—"It is my impression that the really and frankly affective reactions, whenever they occur and no matter in what form (i.e. in the shape of whatever equivalents, such as dyspepsia, fatigue, insomnia), represent facts pointing to a more or less specific and clear and relatively adult problem of adjustment or problems of constitutional make-up, mainly problems of inner adjustment without any essential distortion of the personality."

Manic-Depressive and Schizophrenia. In the chapter on schizophrenia, the differentiation is outlined. In addition, it has been reported on the experimental side that in the cerebrospinal fluid in schizophrenia the bromide distribution was well above 2.8 while in manic-depressive the ratio was lower (Rothschild and Malamud). Palmer and Appel found that manic-depressives react consistently differently from schizophrenics and normals in cardio-vascular and glycemic responses to ephedrin hydrochloride intravenously in 30 mgm. doses. There was a tremendously greater blood pressure rise in manic-depressives. Again, in manic-depressive the blood sugar curve showed a sharp initial fall below the fasting

level, a temporary rise reaching the maximum in 15 minutes, and a secondary fall below the fasting level with a delayed rise toward the end of a two hour period. In the schizophrenics there was a marked elevation of the blood sugar, attaining a maximum at the 15 minute period which was sustained throughout the two hours. In the normal the curve is diphasic, a sharp rise, or slight fall and secondary rise succeeded by a gradual fall toward the normal fasting level. LaMar utilizing the histamin reaction reported "a quantitatively heightened reaction in the affective states over and above that manifested in the schizoid states." In a general way, special psychological tests would seem to indicate a lessened degree of affective responses in schizophrenia than in manic-depressive, but they are scarcely sufficiently developed to provide secure differential diagnostic markings.

VI COURSE AND PROGNOSIS

Kraepelin observed that the first attack is a depression in 60 to 70 per cent of patients, two-thirds of the melancholias are followed by remission and one-third by mania and then a remission, when mania is the first manifestation, two-thirds of the cases are likewise followed by remission. The first attack is apt to occur between the ages of fifteen and twenty-five and the average duration is from three to six months. Future attacks are often a repetition of the initial one with a distinct tendency toward greater frequency, length and severity. As life advances depressive attacks predominate. After recovery the mind and the personality are usually not damaged, unless there is the intrusion of a complicating factor like arteriosclerosis. The more "reactive" the psychosis that is the more its genesis is influenced by psychogenic and environmental factors, the better the outlook; the more, it is constitutional and hereditary the worse the outlook. The sounder the personality, the better the chances of adjustment.

When the first attack appears after 40, there is danger of periodic manic outbreaks. Contrary to general opinion, Pease did not find that hallucinosis was prognostically ominous. Gross somatic and nihilistic delusions are said to make a grave prognosis.

Nolan Lewis reviewed a group of patients, clinically manic-depressive but later exhibiting malignant schizophrenic aspects and concluded: "What seem to be malignant destructive features in some patients are eventually dealt with in a benign and effective manner by others but, speaking generally, persistent localized feelings of depersonalization, dominating hypochondriacal ideas with bizarre delusional elaborations, outspoken hallucinations with delusional fortifications, and odd, disjointed paranoid mechanisms make for a comparatively early serious outcome. When the affect, (elation or depression) is notably in excess of the schizophrenic components, one is inclined to give a favorable prognosis for the present attack, but definite schizophrenic elaborations appearing during the course of an affect disorder are unfavorable signs.

While the extent of deteriorations, residuals or of so-called mental "scarring" is hard to measure or to evaluate, it is quite obvious that these periodic mixed psychoses before described are characterized by a lessened ability in the patient to adjust in the intervals to his former level of mental, social and economic activity. In the majority of these patients the contrast in this respect with the purer form of manic-depressives, in our experience as clinical psychiatrists, is quite convincing. The final deterioration to a vegetative existence appears earlier and is usually more profound than in the purer forms."

One of us made an intensive study of the prognosis in manic-depressive psychosis. (1) The recovery rate was higher in the Jew and Irish and lower in the mixed American types. (2) With initial onset before 40 the recovery rate

was higher than when it occurred later and with the onset before 30, the prognosis was better in the proportion of 7 to 3. (3) When manic phases predominated the prognosis was better (4) The outlook in the mixed forms, agitated depressions, was somewhat better than in the other forms (5) The majority of deaths were circulatory. (6) In the unrecovered group there was 28 per cent direct psychotic ancestry (parents) as contrasted to 8 per cent in the recovered group (7) From the personality studies it seemed fair to draw the following conclusions First that the possession of a personality of pure clinical type (the type which one would naturally expect to develop an affective psychosis, i.e. cycloid) did not necessarily indicate a favorable prognosis Second, patients revealing identification and projection in marked degrees had a poorer prognosis than those who did not evidence such mechanisms. Third, predominantly oral traits in the pre-psychotic personality were indicative of a poorer prognosis than predominantly anal personality characteristics (8) While no one previously acquired disease or group of diseases may be said to predispose to psychotic chronicity, yet, the evidence of somatic disease was more frequent in the unrecovered patients. Such factors as severe repeated infectious processes, widespread or recurrent organic disease tend to weaken the reserve force of the patient, prevent adequate compensations, and may favor the development of a morbid exhaustibility predisposing to more regressive types of reaction (9) From the standpoint of the psychotic content the appearance of paranoid trends, hallucinosis, somatic delusions, suicidal trends and stupor were relatively unfavorable prognostically, while frank erotic reactions and psychoneurotic reactions did not unfavorably influence the outlook (10) From the standpoint of the somatic content of the psychoses, the cardiovascular-renal disease complex rendered the outlook for recovery less favorable Furthermore, it may be said that,

in general, toxic factors and pronounced physical disease promote regression and interfere with adequate effort at rehabilitation

VII TREATMENT

The surgical debauches that were stimulated by the focal infection theory, should not mitigate against thorough treatment of organic morbidity. Whatever may be the findings which result from a thorough examination—tuberculosis, lues, heart and kidney disease, endocrine dysfunction, gastrointestinal disturbances, colonic stasis, *actual* foci of infection, etc,—the physician should stand by his convictions and insist on intensive treatment. It is little short of criminal to assume because the patient has manic-depressive psychosis, that, necessarily his body is organically sound. In the first place there are numerous instances in which the somatic morbidity is strikingly important and even dynamic and in the second place even when it occupies a subsidiary position, it may still call for energetic treatment.

Commitment. Usually in a well defined case, the hazard of suicide in depression, the disruption of the environment by the manic patient, the well-meant but harmful interference by relatives and other considerations render hospital or sanatorium care imperative. If certification can be avoided, it is desirable and often the patient can be persuaded to sign a voluntary request. When this is not feasible, the physician need not hesitate to certify the patient, providing there are definite symptoms and, providing, too, that the doctor makes and keeps a clear record of the symptoms upon which he has based the commitment. It is advisable to consider carefully before committing hypomanic patients, who are often plausible and apt to be litigious.

Protection of the Patient. There are many symptoms and situations that expose the patient to danger. Suicide is

an ever present risk at every stage of depression, *particularly when the patient begins to improve*, and the best protection is watchful, tactful and efficient nursing service. Patients need protection against frequent visiting. Relatives and friends often argue with the manic patient and make ghastly attempts to cheer the depressed patient.¹ Patients need protection from each other. The depressed patient should never be left to the mercy of the manic, and, other patients must be safeguarded against the annoying, bellicose and even homicidal attentions of the acute manic patients. The motor drive of severe mania may lead to bruises, abrasions and lacerations and here, the prolonged bath is advisable. Erotic tendencies may lead the manic patient into disgraceful behavior or eroticism plus a spirit of mischief may dictate the insertion of foreign matter into the body orifices. Depressed patients driven by delusions or with suicidal intent may do the same. One of our patients swallowed 30 pieces of metal,—screws, nails, hair-pins, corset steels, etc. Always, but particularly in severe mania and deep depression, it is important to carry out for the patient or assist him in the general hygiene and care of the body, the mouth and teeth, the skin, the hair, the nails, etc. The physician must be informed concerning the function of the bowels and bladder, particularly in depressed patients. Enemata and catheterization may be required. Manic-depressive is not an immunity against medical or surgical complications and, since the manic patient may be too busy to take account of subjective sensations or may have in a spirit of mischief cried “wolf, wolf” many times before, or the depressed patient may be too retarded or too intent on suicide to complain of pain, it behooves the physician to regard seriously every complaint of the patient, the report of the nurses and in addition to make periodical examinations

¹ In stupor, visitors may be stimulating and helpful

Nutrition. Nutrition often drops to a dangerously low level since the manic patient is often too busy to eat, while the depressed patient is too retarded, too suicidal or feels too "unworthy." He may attempt to "get by" by taking a few bits of food occasionally. Often artificial feeding is imperative. Nasal feeding is the choice. The feeding should be varied and contain not only milk and eggs, but soups, beef juices, strained vegetables, fruit juices, etc. I have had patients gain weight while being tube fed. At the time of the feeding, tonic or other needed medication may be given. Artificial feeding should not be accepted by the physician any longer than is necessary. The patient should be coaxed and tempted to eat and, at intervals a tray should be served. An intelligent and faithful nurse is often successful in helping the patient to resume normal habits of eating.

Rest, Exercise, Physiotherapy, Etc. Unless a reasonable amount of sleep is obtained there is real danger of exhaustion. Hypnotic drugs are often needed, but their exhibition should be limited and to be preferred are such measures as massage,¹ warmth, hydrotherapy, packs and particularly the neutral bath. Of these, the neutral bath (especially when consciousness is befogged or there is a great range of activity) is the method of choice. It is given at a temperature of 92° to 97° F. and may be continued for many hours. It reduces surface temperature with the retention of normal internal temperature and has a striking sedative effect. It is said that "in insomnia there is practically no single measure of treatment so valuable as the neutral bath." For tonic and other effects there may be resort to electric light baths, radiant heat applications, ultra-violet radiation, mechanical vibration, active and passive exercise. A schedule of daily activities compounded of rest periods,

¹ In the early stages of depression, bed treatment with massage is helpful and, later on, a day in bed now and then is a relief to the patient.

exercise and a selection of occupational therapy and physiotherapeutic and hydrotherapeutic treatments, may direct constructively manic over-activity and ease the burden of decision in depressions. Anita Muhl attempts to develop a controlled energy output and to have a definite reserve for emergencies. The accumulation of reserve is accomplished by "small rests and short periods of relaxation interspersed throughout the day—five to ten minutes every two hours, no matter what work the patient is doing."

Drug Therapy. While the use of sedative and hypnotic drugs should be minimized, yet they cannot be altogether avoided. Practically every sedative drug has been employed. The narcotics should not be given excepting where the situation is extreme. Paraldehyde in doses of 1 to 3 drams is safe and acts quickly. The bromides are often employed but usually are not well borne. Veronal or trional grains 10 to 15, and sulphonal grains 30 are effective but are apt to have considerable "hangovers." Some of the barbituric acid series, notably sodium amytal, work well, but are not without danger, particularly in combination with certain coal tar derivatives. In a small series of well selected cases usually manic, we have secured excellent results with sodium amytal narcosis. Wright advocates the intensive use of bromides. Thirty grains are given the first day in morning and afternoon doses and fifteen grains are added each day until toxic symptoms like ataxia, dysarthria and drowsiness appear. It is claimed to be especially valuable in depressed and agitated states. Normal saline infusions have been utilized for the tonic effect. The production of an artificial leukocytosis by the injection of nucleic acid in normal salt solution, manganese chloride intravenously and other metallic salts are recommended by various authors.

In conjunction with an associate, Dr Harold Palmer, we have been making a therapeutic experiment with the oral administration of haematoporphyrin. There is considerable

chemical research and animal experimentation to indicate that haematoporphyrin has a favorable effect on depression and particularly on the retardation. A commercial product is utilized, given in an ascending dosage usually in conjunction with ultra-violet irradiation. The results have been encouraging.

Benzedine sulphate has been recommended for use in depressive patients. In our experience it has been of little permanent benefit. Some patients seemed to receive a mild stimulative effect from the medication but more of them became irritable, tense and restless. We agree with Schube, Myerson and their co-workers that this drug is of no real benefit in the treatment of the depressive reactions. Davidoff and Reifenstein also report unsatisfactory results from its use.

Various endocrine products have been advocated in the treatment of the depressions. The results reported have been inconclusive. At least some of the patients originally reported as improved with hormonal therapy were treated with products that were later shown to be physiologically inert. Theelin, estradiol benzoate (progynon-B) or estrone (amniotin) are the preparations ordinarily used. The original work was done with dosages too small to bring out any alteration in the body physiology. In recent series the dosage has been controlled by studies made from vaginal smears. A physiologically effective dose is indicated by the development of a follicular type of vaginal smear. These later and more carefully controlled studies reveal no definite benefit from the therapy and the conclusions of Ripley, Shorr and Papanicolaou are rather typical of present thought on the subject. "In the group of menopausal and post-menopausal depressions studied the beneficial effect of estrongen hormone was confined to the relief of vasomotor symptoms with associated improvement in feelings of well being. There was no evidence that the depressive illness

as such was influenced specifically or its course shortened " Titus Harris summates his experience in endocrine therapy with the terse conclusion, "The estrogenic hormones have no place in the management of psychiatric patients "

Shock Therapy. The recent wave of enthusiasm for the pharmacologic shock treatment of the schizophrenic reactions has led to the experimental use of these methods in treating patients suffering from manic-depressive and depressive reactions. Bennett first suggested the use of metrazol injections in the treatment of chronic depressive states. The treatment is confined to those patients with chronic depressed or manic states who do not respond to the conservative measures outlined in this section. If careful x-ray, laboratory and general medical survey reveal no contraindications to the treatment it may be used by physicians who are familiar with shock therapy. The initial dose is 3-4 c.c. I.V. increasing the dose according to the patient's reaction. In many cases the patient shows a dramatic improvement after 3-5 shock reactions. The possibility of fractures and other complications must be considered before the treatment is used. Various orthopedic devices and the use of curare injections have been suggested to prevent the complication of fractures.

The technique of metrazol therapy is simple. 3-4 c.c. of a freshly prepared 10% aqueous solution of metrazol is injected I.V. as rapidly as possible. Adequate help to prevent "jack-knifing," flailing of extremities, etc., is essential. The convulsion is usually initiated by a sharp cry and a short clonic phase, followed by a longer tonic phase and another clonic phase. Respiration ceases and cyanosis develops, but at the end of the second clonic phase the patient usually begins to breathe deeply. If he fails to breathe spontaneously artificial respiration and oxygen inhalation will usually reestablish breathing within a few seconds. Persistent convulsions are controlled by intravenous amytal administration.

The patients usually regain consciousness within 2-3 minutes but in many instances they are confused, fearful and disturbed for a period varying from a few minutes to several hours. Treatments are given 2-5 times weekly and continued according to the clinical reaction of the patient. Cases who show no improvement after 15-20 reactions will probably not benefit from further treatment. In our experience depressive patients rarely require more than 4-6 shocks.

If the patient fails to convulse with a given dosage it may be repeated, with an increase of $\frac{1}{2}$ -1 c c, after an interval of 30 minutes. The convulsant dose varies greatly between patients and a given individual tends to develop a tolerance to the drug necessitating a gradual increase in the dosage during the series of treatments. When used, shock therapy should merely supplement and in no way replace the medical and psychotherapeutic procedures outlined.

"We are far from the time when the final word concerning convulsive shock therapy has been said." Unmodified metrazol therapy is far from satisfactory. Modifications concern themselves with the replacement of metrazol by other methods of inducing convulsions, as by electrical apparatus, or modifications of technique, including the use of curare or the administration of metrazol during the coma phase of insulin shock therapy. One of us, working in conjunction with Flaherty, has found in Azoman, a satisfactory and less dangerous substitute for metrazol.

Prolonged Narcosis Therapy. This form of treatment has been advocated for use in mania and the schizophrenias. In our hands it has been of value in obtaining rest in excited and overactive patients who are approaching a state of exhaustion in spite of extensive hydrotherapy and chemosedation. The drugs most commonly used for production of the narcosis are sodium amytal or a mixture of sodium barbital grains 5 and sodium phenobarbital grains 1 dissolved

in a dram of elixir of lacto-pepsin In some patients we use the so-called Cloetta-Maici mixture which contains the following ingredients

Paraldehyde	o 4864 gm
Amylenhydrate	o 1593 gm
Chloral hydrate	o 1157 gm
92% Alcohol	o 1745 gm
Sodium amytal	o 0409 gm
Digilan	o 0330 mgm
Ephedrin-Hydrochloride	2 4600 mgm

The above drugs are combined in that proportion per cubic centimeter. This concentrated solution is diluted with 10 times its volume of a solution of 5% glucose and 1% sodium bicarbonate just before administration Administration is by rectum The dose necessary to produce sleep varies from .15 to .22 c c of the concentrated solution per kilo of body weight

The barbitol mixture mentioned above may be given by mouth or by rectum and the initial dose is 2-3 drams

The sodium amytal may be given by vein, by mouth or by rectum in doses varying from 6-9 grains

Irrespective of the drug used it is repeated as often as necessary to keep the patient asleep After 12 to 24 hours the patient will usually stabilize on a fairly regular daily dose but the dose varies tremendously from one patient to another The patients should be kept soundly asleep Food is supplied by means of tube feeding and elimination is maintained by catheterization and enemata when necessary Fluids are supplied with the tube feeding but if the patient shows any evidence of dehydration additional fluids should be supplied by venoclysis or hypodermoclysis Great care is necessary to adjust the dose to a level which will maintain sleep and yet avoid toxic complications The patient should be kept in a quiet, dark room to encourage sleep and thus minimize the amount of drug necessary Careful attention

to oral hygiene, frequent turning and special care of the skin are necessary. Signs of cardio-vascular collapse or alterations in temperature of more than 1 degree below or 2 degrees above normal are indications for termination of the treatment. We prefer the methods using barbituric acid derivatives because the treatment may be rapidly terminated with picrotoxin in the event of complications. In rare instances the onset of convulsions may necessitate termination.

Treatment is maintained for 10 to 14 days. The patient is then moved to another ward and placed in a light, cheerful room. Attention is given to the clothing, hair, etc., so that the patient awakens in new surroundings. During the period of awakening the psychiatrist should be at hand to discuss pertinent conflict material obtained during the preliminary stage of the illness or during the period of emergence from the narcosis. A great deal of positive suggestion at this time is of definite therapeutic value. We have failed to obtain any dramatic results in the majority of cases but the rest obtained and the improvement in behavior noted after treatment make it a valuable addition to our therapeutic armamentarium.

Occupational Therapy. How valuable is occupational therapy may be judged from the following Resolution adopted in 1913 by the American Psychiatric Association: "Diversional occupation, scientifically and systematically applied, marks the standing of a hospital, and neglected or omitted, the patients are not receiving the most modern care and treatment to which they are entitled."

Wise occupational therapy is never haphazard but is a matter of careful prescription that takes into account not only the presenting phase of the psychosis but, also, the previous personality and mode of life of the patient. It hopes to direct the activity of the manic patient into useful channels, to coordinate muscle and mind, to symbolize reality and by a certain amount of complexity to divert

the depression. Rug weaving, carpentry and gardening are excellent

We believe whenever feasible that it is a good plan to give the patient some living thing like a plant to care for and we utilize freely indoor and outdoor games, sports, entertainment, etc

Nursing Care and Ward Management. The effectiveness of therapy depends upon the skill of the ward staff in managing the patient during his daily routine. Special psychiatric training of the nurse is indispensable and it is only through the intelligent cooperation of the medical and nursing staff that optimum results are obtained. To carry out the previously outlined steps in treatment requires the maximum in such cooperation. Certain special features in ward management should be reemphasized.

In the manic phase the entire nursing procedure should be planned in such a manner as to offer the maximum in protection to the patient and a minimum of stimuli. In the acute phase of the disorder patients are kept in a private room. Neutral baths and other forms of hydrotherapy are given by the same technician each day and at a time when no other patients are in the department. Meals, occupational therapy, etc., are taken in the room. An effort is made to have the same nurses, instructors and attendants care for the patient from day to day. Visitors are excluded. By thus removing the patient's audience, minimizing his chance for conflict with the environment and providing diverting but non-stimulating entertainment the patients tend to be less overactive and disturbed and in our experience this greatly minimizes the destruction of property and sharply decreases the amount of sedation necessary. Exhaustion states are infrequent in patients handled according to this plan. As the patient improves environmental stimuli are slowly increased. It is our feeling that this plan also materially shortens the manic phase of the illness.

In the depressions special nursing techniques are also indicated. The patients must be carefully protected against attempts at self-mutilation or self-destruction. The ward surroundings should be kept bright and attractive and frequent changes of pictures, flowers, clothing and rooms offer valuable diversions. Tactful efforts should be made to interest the patient in the occupational therapy, outdoor excursions, movies, music, reading, etc. The skill and tact of the nurse in approaching these subjects is very important because the patients are negativistic or feel hopeless and tend to reject any attempt to divert them from their endless melancholic ruminations.

The Social Worker. After recovery the Social Service Worker who has practical common sense, a rare virtue, is invaluable in completing and continuing the adjustment of the patient following his discharge from the hospital. In our experience the Social Service Department has been of great aid in the follow-up care of these patients. It is our opinion that a careful follow-up with aid in adjusting minor personal conflicts and in certain indicated environmental manipulations is the best prophylaxis against the recurrence of the disorder.

Analytic Procedures. During the acute phase of the illness the discussions by the physician should be limited to reassurance, explanation of procedure, discussion of symptoms and infrequent and cautious discussion of the conflict material evident. Detailed personality study, distributive analytic procedure or formal psychoanalysis should be limited to the interval between attacks. In all instances the discussion should be cautious and in small, readily understood sections in order that the patient may not become confused with a resultant reappearance of symptoms.

INVOLUTIONAL MELANCHOLIA

A cross-section of psychiatric opinion allies involutional melancholia with manic-depressive psychosis. Neverthe-

less, the effect of the somatic and psychic influences of the climacteric are distinctive enough so that involuntional melancholia merits separate description. Authorities agree that the diagnosis should be reserved for those instances in which the somewhat typical syndrome of involuntional melancholia appears initially in either men or women at or in conjunction with the climacteric. If there have been earlier manic-depressive episodes then the diagnosis should not be made. Even with this reservation there are many psychoses appearing at the climacteric, or later, which certainly, at first glance seem unrelated but before describing them as entities, it is better to attempt to determine if some of them, at least, do not belong in the involuntional groups, with clinical modifications determined by the intrusion of the pre-psychotic personality traits.

Etiology—Not only are the involuntional psychoses more common in women than in men, the rate being about 3.2, but also they appear earlier. In women the age range is between 40 and 55, and in men between 50 and 65. While we cannot speak with complete authority, it seems fair to state that the somatic, chemical and psychogenic influences of this age epoch are instrumental in producing a gradual sapping of the resistance against mental disease. This would seem to be verified by the fact that the psyche has been able to withstand assault and maintain its integrity for 4 to 5 decades. If there is a flaw, it is readily found by the many liabilities, intrinsic and extrinsic of the climacteric. It is the beginning of the regressive period and life cannot be lived over. The mistakes of the past must stand. Flexibility of youth is gone forever. In itself the period brings with it a certain amount of indecision, anxiety and apprehension. It is the time of life, too, when the individual is apt to feel the weight of numerous physical and psychogenic difficulties. On the one hand, the somatic integrity is threatened by circulatory, endocrine, pelvic and other morbidity, on the

SYMPTOMATIC TABLE

Attitude and general behavior	Stream of mental activity and speech	Affect and mood	Mental trend, content of thought	Sensorium, mental grasp and capacity	Insight
<p>The attitude and general behavior is dominated by the depressive-apprehensive affect. This is expressed in the faces and posture of the patient.</p> <p>Some degree of motor over-activity varying from restlessness to frenzied agitation during which there are often suicidal attempts is common in a smaller percentage of cases there may be inactivity and retardation.</p> <p>Strecker found in about 20% of the involutional and pre-senile psychoses that there were such katatonic symptoms as fixed attitudes, cataplexy, negativism, stereotypy grinning, mannerisms, automatic movements, etc. He also observed in the same group of patients refusal of food, impulsive violence, restlessness, destructiveness, violent scolding, unapproachability, mutism and retention of urine and feces.</p>	<p>Usually there is poverty of thought with monotonous and often repetitive speech.</p> <p>The ideation is strongly colored by the profound depression and apprehension. There may be a profuse delusional content expressed by an elaborate vocabulary.</p>	<p>The more constant basic emotional tone is an admixture of apprehension and depression.</p> <p>In involutional melancholia and its sub-groups there may be a wide range of emotional reactions, including irritability, anger, inadequacy, pessimism, sarcasm, ironical witicism.</p> <p>The depth of the depression is shown by the frequent suicidal attempts.</p>	<p>There is a variable delusional content, often self-accusatory and self-deprecatory. Often the delusion of the "unpardonable sin" is expressed.</p> <p>There may be massive delusional formations, apprehensive and self-deprecatory, not only concerning self, but family friends, the city the state, and even, sometimes, the whole world.</p> <p>Hypochondriacal and gross somatic delusions are quite common.</p> <p>Nihilistic delusions may occur.</p> <p>There may be ideas of reference with suspiciousness and delusions of persecution, feelings of unreality and there may be odd expressions of grandiosity.</p> <p>Hallucinations and illusions are not common but may occur.</p>	<p>Usually the consciousness is clear and there is excellent orientation but clouding of the sensorium, confusion and, even, stupor, do not negative the diagnosis.</p>	<p>Usually there is some recognition by the patient of the abnormal nature of their symptoms.</p> <p>It can scarcely be termed insight, since it is partial and, usually, very defective.</p> <p>Frequently the patient is easily able to grasp the errors in the delusional systems of other patients, but is unable to recognize even gross defects in his own reasoning.</p>

other hand, there is apt to be at this time the discouragements resulting from reverses, disappointments, deaths, family worries and so forth.

SYMPTOMATOLOGY

It is difficult to select a typical clinical type. Perhaps, the purest picture reveals a depressed-apprehensive affect, somatic delusional formation, self-accusation and physical restlessness, frequently mounting to agitation. There are often anxiety, unrealty feelings, and nihilistic delusional formation. MacCurdy felt that the group of cases showing fear of impending death, of poverty and of bodily disease constitute true involuntional melancholia. For the convenience of the student, a symptomatic table, which covers the average range of symptoms in involuntional melancholia, is included (p. 333)

CASE PRESENTATIONS

In order to illustrate the range of symptomatology, a selection of actual cases is presented

CASE 41. A fairly typical case of involuntional melancholia. Depressed-apprehensive-anxious affect. Psychomotor agitation. Depressive, self-accusatory, self-deprecatory and somatic delusional formation.

Tillie B. is in her fifty-third year. She is a cultured woman, with a good educational background and comes from sound, transplanted British stock. Her father died of apoplexy at the age of seventy. In the ancestral and collateral branches of the family there is a conspicuous record of pioneering constructiveness and efficiency and an absence of constitutional, mental or nervous disorder. As a girl, Mrs. B. was healthy, but during the past four years, she has had grippe complicated by neuritis twice each winter. This continuously sapped her strength and, perhaps, had as a sequel the high blood pressure which appeared six months

before the onset of the psychosis. Menses ceased at forty-nine. It is noted that Mrs. B. was "quiet, self-sacrificing, easy to live with, conscientious, deeply religious, forgiving, had excellent judgment, was a good manager, very sociable, friends came to her with their troubles to be advised and cheered. She enjoyed quiet pleasures, played the piano well, sewed, liked afternoon teas."

Mrs. B. made an unfortunate marital venture at the age of 25. Her husband was a brilliant lawyer, but a hopeless alcoholic and drug addict. The financial uncertainty, struggle and worry over his habits have always been a tremendous strain on the patient. She bore her burden with fortitude, patience, and philosophy. Finally, her husband's behavior so changed the home atmosphere, that Mrs. B. felt the future of her two children was being imperiled and she left her husband. There were many brief separations before the final one. Since Mrs. B. had no financial assistance, she undertook to run a rooming house. During the past 5 years she has been unable to secure help and has continually overworked. Then followed a year of insomnia, anorexia, headache, paraesthesias, decline in weight and mild depression (prodromal period).

The psychosis appeared abruptly. The patient began to moan, wring her hands and pace the floor (*motor agitation*), became deeply depressed and apprehensive, declaring herself "a terrible sinner" for having "divorced her husband," she had brought trouble on the whole world and should "never have been born," she should be "sent to jail," "the Lord had cast her out and life is a horrible torture," "no one should touch her as she is sinful," (*self-accusation and self-deprecation*). This was the beginning of the stage of agitated depressive-apprehension which has continued for twelve months.

Mrs. B. was admitted to the hospital eleven months ago. Physical examination recorded the following positive find-

ings. double scoliosis, thin, pale, poor musculature Reflexes markedly exaggerated Moderate arteriosclerosis with pressure fairly constant at systolic 180, diastolic 110. Anemia, 3,000,000 red cells and 70% haemoglobin Blood Wasserman negative. Urinalysis, traces of albumen, and a few granular casts. Blood chemistry, slight increase in urea nitrogen.

Mental Examination. The psychosis is beginning to recede and recovery is now in sight. At the apex of its curve the patient was in a state of almost unending activity, restlessly squirming about in a chair or walking rapidly up and down, rubbing her hands together, pulling at her hair, pinching her neck and cheeks, biting her fingers until they bled (*Motor agitation*) Her shoulders dropped, her face was deeply lined, so that one would have judged her age as seventy, and in her eyes was an expression of unutterable woe From time to time she would glance about in a furtive fashion and then depression would be blotted out by the signs of fear Now and then a kind of paralysis of action was manifested, as when, for instance, she stood for half an hour with a garment in her hands, as if powerless to summon enough decision to put it on (*inadequacy, perplexity, and retardation*) She would shrink away from the outstretched hand of the physician and passively resist the attention of the nurses, and upon questioning it was found that she did this because she felt unworthy to be touched (*self-deprecation*). Speech was scant. Insistent questioning usually brought an answer but the few brief sentences soon trailed away into a mumbling sound, which however needed no spoken words, to tell that sadness and dejection were always the main motifs of the dominant thought No analysis was needed to determine the mood. A mere glance at the patient at once told the story of profound depression, always with an undercurrent of anxiety and apprehension, which frequently became strong enough to hold sway, for a time, in the affective realm The following random

selections illustrate the delusional content which is fairly typical for many of the psychoses which fall into the involutional group

"Oh, it's terrible! Oh, what have I done! Oh, I'd better be dead" (*depressive-self-accusatory*). All her family have been killed because of her wrong doing "They killed the last one this morning! Oh, if I only could have spoken! Oh, it's terrible! They will do more!" (*Apprehensive-depressive-self-accusatory*) "Oh, what have I done! I'm possessed. Can't I be saved? What is in store for me?" (*depressive-apprehensive-self-accusatory*) "Not a cent left—not a cent" (*poverty*). When it was necessary to employ tube-feeding, "I'm all stopped up—it can't get out—it won't go through—there's no room—you must not put any in" (*somatic*) The sensorium was clear and there were no hallucinations or illusions. The patient was oriented and when cooperation could be secured, no significant memory gaps could be discovered. There was one suicidal attempt, an effort at strangulation by knotting the bed sheet about the neck. At the height of the psychosis there was no insight. With improvement came the occasional admission "perhaps they are ideas, but they seem so real." At the present time there is increasing realization of the nature of the illness.

DISCUSSION

The case is rather typical for involutional melancholia, in that there was a combination of depressed, apprehensive anxious affect with considerable psychomotor agitation. The potential prophylactic possibilities deserve some consideration. There was a hopeless life situation resultant upon the habits of the husband, which should have been adjusted sooner. It was permitted to play havoc with Mrs. B's resistance for fifteen years before it was interrupted. It is as much the province of the physician to judiciously and diplomatically help to untangle such disabling social-

environment problems as it is to prescribe medicine. The second factor was a somatic one. Medical intervention might have prevented eight successive attacks of influenza or at least favorably modified the unfavorable after-effects on the kidneys and circulatory system.

CASE 42 Illustrating extreme somatic delusions and marked psychomotor agitation.

Yetta C. is in her fifty-second year. She is one of four siblings; is of German-Jewish extraction but was born in this country and is not orthodox. The family record is clear of mental and nervous illness. Yetta completed the grade schools and then was a saleswoman in a notions store until she made a satisfactory marriage at the age of twenty-five. Two children died in infancy but there is one daughter living, who is healthy and normal. Yetta was always strong and well; good-natured, and cheerful, very sociable and enjoyed the theatre, the "movies" and cards; took pride in her appearance and liked pretty clothes, but was not frivolous, since she was a splendid housekeeper and an excellent manager. At the age of 51, coincident with the first menstrual irregularity (menses ceased entirely ten months later), she began to complain of vague pains, "neuritis" in the arm; chilliness, headache. Worried a great deal about her health and took violet ray and osteopathic treatments. She was restless and uneasy; her appetite was poor and she had insomnia (prodromal period). About nine months later "she suddenly became fearful, agitated, apprehensive and suspicious, cried and paced the floor; wrung her hands and bit her nails; resisted care and treatments; worried because her mother died during menopause and because a friend became insane after a physician had examined her" (*stage of apprehension and motor agitation*). A month later in an Osteopathic Hospital, she refused food, insisting that she had no stomach or internal organs and could not taste or smell (*somatic delusions*) and this delusional trend has been

the outstanding feature of the psychosis. On admission she was exhausted and poorly nourished. Her weight had dropped from 130 lbs. to 90 lbs. in less than a year. There was slight glycosuria and an occasional granular cast but no definite arteriosclerosis. This and a slight relative lymphocytic increase, constitute the only positive physical findings. Mrs. C. is one of the few patients who correspond to the traditional lay conception of the "raving maniac" (*mental examination*). In a frenzy of excitement, she runs back and forth, moaning and wailing, slapping her arms and pinching her flesh. Her finger nails are bitten to the quick. On her face is an expression of the keenest suffering—a mingling of intense anxiety, depression and apprehension. When anyone approaches, the evidence of fear and agitation are redoubled. If treatment does not intervene, this state will continue for several hours or until exhaustion appears. Then the patient will lie across a bed, still moaning and bewailing her sad fate. The vocabulary which is put into use betrays the narrowness and poverty of thought. There are perhaps a hundred words, which as far as spontaneous speech is concerned, are always employed to describe the delusions which torture the patient. "Everything gone—everything out of me, no stomach, no lungs, no insides, just a shell" (*somatic and nihilistic delusions*). All her organs have passed out of the rectum and whatever food she eats goes immediately into and out of a hollow abdominal cavity—"There is nothing in between"—"nothing left but hands and feet and eyes." There is a touch of the grandiose in this nihilistic production. "This is a miracle—no breath—or anything—Oh! God! Not an earthly thing is left." The affect closely approximates the delusional thought content and in the facies and psychomotor activity there is a true portrayal of depression, apprehension, anxiety, horror and utter hopelessness. However, there is no self-accusation which usually has such a prominent symptomatic

role in involutional melancholia. At rare intervals, it is possible to hold the attention and then the replies indicate that, after all, there is no disturbance of consciousness, memory, orientation, etc. Insight is practically absent. Once the patient said "there is nothing the matter with my brain." There are no hallucinations or illusions.

DISCUSSION

Since some degree of hypochondriacal, somatic and nihilistic delusion formation is so common in the involutional-pre-senile group of psychoses, this extreme example has been presented. The student may expect to discover delusions of this type, varying from mere hypochondriacal fancies about which the patient is not more than half convinced to gross ideational distortions which are firmly believed. The genesis of these delusions has not been satisfactorily explained. They appear to be a kind of psychological expression by over-emphasis of waning physical powers. It has occurred to us that in the fact that in our daily lives we see on every side the implied association between the taking of food and living (*self-preservation*), there may be found a partial explanation of the frequency of the reference of these delusions to the gastrointestinal tract, since in some sense involutional melancholia is a temporary abandonment of the preservation instinct.

From the standpoint of prophylaxis, it should be emphasized that there is a mental as well as a physical aspect to the hygiene of the climacteric. Physicians who undertake the treatment of patients who are at this critical life epoch, should not only pay attention to the organic factors, but should also give advice concerning social-environmental handicaps and should penetrate the minds of the patients, at least deeply enough to discover and uproot any erroneous conception concerning the likelihood of the development of mental disease.

When no definite organic disease is found, as was the case in the instance presented, the therapy is largely symptomatic—hospital care, proper nutrition, hydrotherapy (continuous baths, hot packs) to secure motor quiet, the occasional exhibition of mild hypnotics. Later, occupation will be very useful.

CASE 43 **A psychosis in the pre-senium. Depressed, apprehensive, irritable affect. Psychomotor agitation. Depressive self-accusatory, paranoid, somatic and poverty delusions. Illusions. Confusion and disorientation.**

Mary G. is now in her 64th year and in the fourth year of the psychosis. Her antecedents were German. Her father shot himself at the age of 60, probably during an attack of manic-depressive. A paternal cousin is "nervous and excitable." However, two living brothers and sisters are sound. Mrs. G. was the youngest child and after the death of her father, she was raised with the family of a neighboring farmer. Here she was treated kindly but had to work hard and her education was restricted to irregular attendance at the country district school. At nineteen she married and although her married life entailed considerable self-sacrifice, and work, yet she was satisfied and happy. A son and daughter were given advantages which were denied the patient and now occupy relatively much better positions in the social scale than did their mother. The daughter is an artist and the son an army officer. Both are normal.

Mrs. G. was always strong and well and had no serious illnesses, with the exception of scarlet fever in childhood, which left her totally deaf in one ear. At 44 she had eye trouble, feared blindness and as a matter of fact her vision was left seriously impaired. The climacteric occurred at fifty-one. She was pleasant, affectionate, witty, sociable, unselfish, and thoughtful but there were also serious personality liabilities, an inclination to worry and to be appre-

hensive particularly about small matters and a tendency to deprecate self; to feel that anything she did was not quite right; to blame herself if things went wrong. While not at all emotionally unstable yet her "heart strings were too easily played upon" and she was "sympathetic to a fault"

At the age of 59, Mrs. G began to complain of itching sensations in the skin, lost her appetite and did not sleep well. There was headache, throbbing in the head and ears and she worried about "her nerves" Depression was added, she feared she "might not get well" and "lost interest" (prodromal period). Four months later she suddenly became restless, which rapidly mounted to agitation. Now, she was "the most wicked woman in the world" (*self-accusation*). After much urging she finally confessed her "unpardonable sin" as an attempt "to kill my daughter before she was born" Because of her sin, "all her family would be exiled to Siberia and later executed" "Government officials are coming to arrest her" Her daughter is not really her daughter but "someone dressed up by *them* to look like her." "*They*" make her say "crazy things" (*indication of paranoid trend*).

On admission the patient showed the physical effect of the long continued agitation and insufficient food and she was undernourished, weak and had a rapid pulse There was evidence of early senile changes and moderate arteriosclerosis The cervix uteri was lacerated and hypertrophied There was constantly a trace of albumen and usually a few granular casts in the urine. Gastric hydrochloric acid was diminished (*mental examination*) The face of the patient in her calmer moments portrays deep depression, but when she is in a frenzy of agitation the dominant characteristic is apprehension Then she cries out in fear when anyone approaches and her eyes are wide and staring Often she paces restlessly up and down, wringing her hands or beating her face. At times she seems to be appealing for protection

and clings to the dresses of nurses when they come into her vicinity. Several times she has been discovered kneeling in the prayer attitude. Occasionally and apparently when suspicion is uppermost, she will spend hours examining her room or watching the door. During the past year she has become more seclusive and seems to prefer to lie curled up in her bed. When anyone enters, the patient emits a peculiar explosive, guttural grunt. At first this sound had a strong emotional quality (*apprehension*) but now it seems to be losing its feeling tone and is becoming more and more automatic. (The author pointed out that certain so-called late katatonic phenomena may be the remnants of symptoms which originally had a deep feeling tone but which gradually disappeared until only a more or less automatic act or sound remained.) It is not always easy to understand the patient's speech. The voice tone is low and there is muttering or incoherence. Her productions are interspersed with much weeping, moaning, and groaning. Mutism is not infrequent. The vocabulary is simple and limited but adequately expresses the ideational content. The affect always has depression as a basic element but there is a strong admixture of apprehension and anxiety. However, there is now and then, a display of considerable irritability. The delusional content is always elaborate. The self-accusatory trend is to the fore, but there are also paranoid and somatic delusions and ideas of poverty. "She has committed an unpardonable sin" (attempted abortion 40 years ago); "on account of her 'hideous crime' she and her family are to be burned alive. Before she is burned she will be starved almost to the point of death. Other patients are being tortured because of her sin. She is being watched by detectives who are trying to trap her. They impersonate physicians and nurses, so that they may observe her closely. She receives letters to which someone has forged her daughter's name. Her persecutors will come for her at any moment. Her nose

has been stopped to prevent breathing Her bowels have been closed with a lock. Her stomach has been filled with snakes She has been infected with leprosy," etc., etc Every penny of her savings, the accumulation of years of self-denial, is gone and she and her husband are left destitute in their old age. There are no hallucinations but illusions are fairly prominent. Casual sounds may be interpreted as the screams of someone who is being burned alive Memory is not intrinsically impaired but the sensorium is not always clear From time to time there is a moderate degree of confusion Then the productions are unintelligible and orientation is very uncertain There is a resemblance to a low grade delirium There is no insight, though once the patient vaguely spoke of being "sick "

DISCUSSION

This case represents one of the group which is not typical for involuntional melancholia, even though the affect falls within the limits of depressive-apprehension and there is psychomotor agitation. The onset was late in life, almost the beginning of the sixth decade The paranoid trend is fairly prominent, there are delusions of poverty, katatonic phenomena are beginning to appear (flexed attitudes in bed, mutism, peculiar explosive grunting, etc.) and it is probable that the affect will soon become insufficient. Chronicity seems in store for this patient Treatment, by force of circumstances, has had to be restricted to the relief of symptoms The motor agitation has been quieted by usual methods and the nephritis controlled by dietary measures

CASE 44. The following abstracted case report illustrates how difficult and confusing the symptomatic picture may be in the involuntional-presenile group of psychoses. This psychosis simulated at various times during its course of 29 months—involuntional or presenile depression, paresis and finally an undetermined katatonic process There was

depression, apprehension, self-accusation, agitation, retardation, auditory hallucinosis, ideas of reference, a rich delusional content including paranoid and grandiose trends, disorientation, katatonia and stupor.

The chief autopsy findings were chronic interstitial nephritis, severe fatty degeneration of nerve cells in the brain and cord, satellitosis particularly in the hippocampal region, and an acute degenerative process in the cord

Admitted April 12th, at the age of 51

Family History—The family is apparently sound, the histories of grandparents and parents being free from any taint of mental disease or neuropathic tendencies. The father lived to be 80 and the mother is clear and bright at 83. In the collateral branch there is one sister in the terminal stage of dementia precox, and a brother who has disappeared. The four remaining, two brothers and two sisters, are normal and capable men and women.

Personal History—The patient was fifth in the birth order, and was a bright baby, speaking and walking earlier than the other children. She had a social, practical and rather positive personality and her judgment was valued by the other members of the family. Never married and voluntarily assumed the care of an invalid mother.

Present Illness—In September, of the previous year, she rather suddenly became apprehensive and developed ideas of reference. She felt that some great calamity was to overtake the family and "that everything would be lost." The posts on the street were figures which were watching the house. There was "something" which she could never name nor definitely describe, but it controlled, watched and worried her. This thing was often threatening and filling her with fear. Sometimes it said it was going to take everything the family had, once it told her to jump out of the window and she tried to do so. The affect in general corresponded to a state of agitated depression. On admission in April,

1915, the patient was clear and oriented, but more or less restless, uncommunicative and suspicious.

Physical Examination. Rather poorly developed, with wasted musculature. Over the apices of the lungs the percussion note was dull and the breathing shallow. There was a moderate degree of arteriosclerosis, the systolic pressure was 145 and the diastolic 100. The right pupil was irregular in outline and reacted sluggishly to light. Fine tremors of the lips, facial muscles and eye-lids. The urine showed a moderate amount of albumen. Serum Wassermann weakly positive, and the spinal fluid negative in the amount of 0.2 c. c. Menstruation had definitely ceased six months before the onset of the psychosis.

For five days following admission the patient maintained a non-committal attitude and succeeded in concealing her real state of mind. On the fifth day there was an abrupt transition to a condition of agitated apprehension, with self-accusation and considerable confusion. On the seventh day there was a period of brief but intense excitement, during which she attempted to kick and bite her nurse. This was undoubtedly a reaction to auditory hallucinations. She began to tell of a machine, a "sort of collector of thoughts which speaks to people." During the second and third weeks there was almost constant depression, agitation, and apprehension. The patient was now no longer oriented, her confusion increased markedly from day to day and often she was inarticulate and mute. There were periods of violence again evidently dictated by vivid hallucinations. Food was frequently refused and nasal feeding had to be employed. During the next two months a series of grandiose delusions developed. "Our estates are gorgeous" "My income is billions and billions" "I have banks in England and America." "I had invitations from ever so many people, from kings and queens to be queen." "I am queen of the world" are typical examples of her daily productions.

Running through the fabric of such extravagant fancies there was still the thread of apprehensive-depression, which at times mounted to veritable frenzy of fear "Why man, I have been through murders and murders They took me around to all those murderers. They came and injected all that poison into me Don't put that stuff down. Oh God! Oh God!" Again, "Don't you remember when they put me in that basket of boiling water?" These outbursts were usually accompanied by moaning, sobbing and wringing of hands At times her utterances were hopelessly disconnected and frequently she was unable to put her thoughts into articulate language. Once when shown a pencil and asked to name it, a full minute elapsed before she was able to pronounce the word She could repeat all the letters of the alphabet after the examiner. There was still deep confusion and constant restlessness and, in spite of frequent tube-feeding, the weight declined. During the months of July and August, 21 months after the onset of the psychosis, the patient showed considerable improvement. She oriented herself, developed an interest in simple occupations, and read a book of which she was able to give a fair account from memory. In September the consciousness again clouded and the orientation was lost In October, she made two attempts to strangle herself, once by tying a piece of ribbon and again a strip of linen around her neck. The restlessness, agitation, and resistiveness reappeared and daily became more intense. In November and December there were two more serious suicidal attempts Speech became constantly more difficult and at most consisted of a few scattered words or disconnected phrases The patient was now practically negative. She assumed fixed attitudes and the head would be so firmly pressed against the chest that it was impossible to raise it On the first of January, eight months after admission, stupor developed which lasted until her death on the 22nd of March

The resistiveness, impulsive violence, and much of the destructiveness and food refusal made their appearance in close connection with hallucinatory paroxysms of remarkable vividness, in which the consciousness was deeply clouded. During the two months, marked by improvement, reorientation and clearing of the sensorium, they were scarcely in evidence. The fixation of attitude, which partook of true negativism, was most prominent just preceding the onset of the stupor. The stupor was profound but at times strong stimuli elicited a response. The eyelids fluttered in reaction to pin-pricks, the face flushed, the veins stood out on the forehead, tears started from the eyes, and there was frequently a swallowing sound following passage of the feeding tube. Although there was never any suggestion of catalepsy, yet the muscular opposition was not always equally intense and often it was absent altogether. The urine was only infrequently retained. The patient occasionally changed position, put a finger to the nostrils and opened her eyes. On the somatic side were the generally subnormal temperature, with now and then an ephemeral elevation, the weak pulse, the slow and shallow breathing, a few vomiting spells, vaginal discharge, practically negative urinary findings, and a progressive decline in weight from 92 to 58 pounds.

PHYSICAL SYMPTOMATOLOGY

In the examination and treatment of the patients who come to the physician during the involutional period, there must be the constant thought that it is the period of beginning physical decline and that there is a high morbidity of heart and vessel disease, pelvic pathology and endocrine dysfunction, particularly in reference to the ovaries and prostate. The physical picture is presented in the table on p. 371.

Psychopathology. There is enough resemblance between the symptoms of the "normal" menopause and involutional melancholia that further study and investigation is indicated.

General	Body systems	Subjective sensations	Neurological	Laboratory
Often signs of precocious senility, gray hair, dry, harsh skin, etc Marked insomnia Anorexia, profound disturbances of nutrition, often marked decline in weight Fatigueability Subnormal temperature	There may be arteriosclerosis, many circulatory disturbances cyanosis, pallor, coldness Edema of limbs, irregular, small, slow pulse, low pressure (sometimes high) Cessation of menses or a great variety of other disturbances Disturbed digestion Obstinate constipation Gastric achylia Prostatic morbidity	Many varieties including headache, head pressure and vertigo, precordial distress, dyspnea, "weight on chest," cardiac palpitation, ringing in the ears, etc, etc	Nothing specific but there may be dilatation of pupils with sluggish reaction, tremors, modification of reflexes, etc If central neuritis occurs there are signs of degeneration, contractions, emaciation, retraction of the lips, subnormal temperature, coma and death	No specific findings but chemistry and the x-ray often discover positive findings in the gastro-intestinal tract and elsewhere Blood sugar curve is commonly high and there is often transient glycosuria

On the one hand, there are seen frequently, jealousy feelings, rapidly shifting emotional states, mild depressive reactions, impulsivities of conduct, marked irritability, restlessness and hypochondriacal sensations all considered within the range of the normal and on the other hand in the most common psychosis of the climacteric, there are often deep depression, extreme angry irritability, paranoid trends, restless agitation and somatic delusions

MacCurdy seeks to explain some of the involutional melancholic reactions on the basis of an ambivalency of the death idea. For instance, apprehension concerning death co-existing with suicidal attempts

Henderson and Gillespie sum up MacCurdy's theory as follows "Involutional melancholia can be summed up as a regression to the 'primary subjective phase' of the minimum of mental effort (= death) and autoerotism (= hypochondria)

Anxiety is the natural reaction to ideas of murder, torture, etc., which are symbolizations of the unconscious desire for death and derive their intense motive power from the latter "

Diagnosis. Since cerebral arteriosclerosis may complicate the involutional and particularly the presenile depressions, it may make for diagnostic difficulties. Cerebral arteriosclerosis does not negate the diagnosis of the involutional group of psychoses, but, psychoses with arteriosclerotic brain disease should not be diagnosed if evidence of general (persistent headache, dizziness, vomiting attacks, etc.) or focal (aphasia, paralysis, etc.) cerebral arteriosclerosis is wanting.

Confusion with the rather rare organic pre-senile dementias should be prevented by a careful consideration of the amount and type of memory and retention defect.

Atypical paresis should be readily recognized by the neurological and serological findings

Typical manic-depressive with the classical syndrome of emotional depression and psychomotor retardation is not apt to appear initially so late in life. A careful survey of the history is very likely to reveal earlier depressive reactions, their equivalents and even manic reactions

A careful survey of the presenting symptomatology should prevent confusion with manic-depressive psychoses. In the latter if at all typical there is the classical retardation of psychic and motor function. Furthermore, the constitutional nature of the psychosis is revealed by its onset comparatively early in life, some evidence of the manic phase and the appearance of recurrences.

A host of poorly defined psychotic reactions, involutional paranoia of Kleist, involutional paraphrenia of Lerko, Leclert's paranoid psychoses, pre-senile paraphrenia of Albrecht, late katatonia of Urstein, Kraepelin's paraphrenia, etc., etc. may jeopardize the diagnosis but, in them, the

affective reaction is too meagre and eventually deterioration sets its seal upon the psychosis

On account of the age incidence of involutional psychoses, schizophrenia is scarcely ever brought within the range of diagnostic possibilities, even though, now and then, there may be symptomatic resemblances.

There has been sufficient explanation to separate out the anxiety states that are basically psychoneurotic rather than psychotic

Course and Prognosis. Involutional melancholia is lengthy in duration. Including a prodromal period of several months, a course of one year to 18 months is not uncommon. Even after two, three or four years there is still a chance for recovery. The convalescence is likely to be gradual.

The recovery rate is about 23 to 40 per cent and the mortality by suicide and intercurrent disease is about 20 per cent. 25 to 32 per cent become chronic. After the age of 55, or if there are advanced senile changes, the outlook is gloomy. We have found that definite arteriosclerosis, a considerably diminished affective reaction particularly with katatonic signs and persistent paranoid trends decrease the chances of recovery. Hoch and MacCurdy report that chronicity is determined by a duration of four years or by the fact that the following symptoms are dominant and fairly constant. Marked insufficiency of affect, peevish or autoerotic behavior or ridiculous hypochondriacal delusions usually referred to the alimentary tract. The triad of peevishness, marked hypochondriasis and a considerable narrowing of affect is regarded as having ominous prognostic import. On the other hand, the relative absence of hypochondria, fairly well retained emotional reaction often with great anxiety, restlessness and delusional death and poverty ideas are said to auger a favorable outcome. It is probably true that after the second year, the chances of recovery rapidly diminish.

TREATMENT

Prevention. Every woman should be prepared for the menopause and the traditional ideas concerning its threat to the mind should be vigorously combatted. The physician should make a careful evaluation of the inherited, organic, psychic and environmental flaws in each patient. From such evaluation will come sensible preventive measures and safeguards. Often some form of ovarian therapy, perhaps determined by the estragen determination in the blood and urine is helpful.

Actual Treatment. Suicide is such a constant threat, that tactful vigilance must never be relaxed. The best protection is the understanding and efficient psychiatric nurse.

Frequently, a gain in weight is the first sign of improvement and recovery. The diet must be liberal, rich in vitamin content and it should include extra feedings, preferably raw eggs and milk.

Long rest periods are advisable. Sometimes the prolonged bath induces quiet and sleep. It is frequently necessary to employ hypnotic drugs in as small dosage as is possible. Paraldehyde, bromides and chloral, veronal, sodium amytal and other barbiturates have all been recommended. In rare and extreme cases with intense motor agitation, a trial of the newer opium synthetics may be made. Some patients respond to metrazol injections as outlined under the manic-depressive section.

Always the patient is a problem in internal medicine. Endocrine imbalances, disturbances of circulation, cardiovascular and gastrointestinal pathology, pelvic disease, focal infection, etc., may all need vigorous treatment. Constipation usually requires hygienic and dietary control, massage, b. acidophilus, etc. Gynecological consultations are needed not only to determine and treat pelvic pathology but also to obtain expert advice concerning endocrine

therapy for relief of vasomotor symptoms or menstrual disturbances.

In the vast majority of patients sanatorium or mental hospital care is imperative. Infrequent visiting by relatives and friends should be the rule. Experience shows that they are likely to increase depression, anxiety and apprehension.

These patients are not always and certainly not throughout the entire course of the psychosis inaccessible to psychotherapeutic efforts. Non-argumentative discussions, persuasion, reassurances, suggestions, etc. are beneficial, and certainly, after the psychosis is over they are remembered with gratitude by the patient. The nurse should not be merely an efficient robot, but should work with the psychiatrist toward the accomplishment of the physical and psychological adjustment.

Occupational therapy is here as in the treatment of many psychoses, *the important* therapeutic adjunct. There is a wide range of choice—basketry, weaving, gardening, modeling, etc. It may be valuable to change the form of occupation from time to time and it should not be so complex and intricate that it over-fatigues the already wearied mind of the patient, nor should it be so simple that it demands little or no attention and consequently provides no escape from gloomy subject matters of the psychosis.

After recovery, the physician, often aided by the social worker, should supervise the patient and keep a watchful eye on the environment, at least, until the adjustment is complete.

SURGICAL PROCEDURES IN THE TREATMENT OF PSYCHOSES¹

In 1936, Egas Moniz, a Portuguese surgeon recommended prefrontal leucotomy as a neurosurgical aid in the treatment of chronic, intractable depressions characterized by severe agitation and motor restlessness. This "psychosurgical"

¹ This section written by James A. Flaheity, M.D., Department of Psychiatry, University of Pennsylvania School of Medicine.

procedure at first met not only little acceptance but almost general condemnation. Watts and Freeman, in 1938, published a favorable record of their experience with involuntary cases of long standing and with a hopeless prognosis. They also found the operation to give a degree of help to obsessive-compulsives who were unable to be helped otherwise. Francis Grant of Philadelphia, has used this operative procedure in a few carefully chosen patients, whose behavior patterns were predominantly fear, anxiety, and hyperkinesis, with favorable effects. Grant uses the procedure only upon those patients who have totally failed to respond to other treatments and whose psychiatric prognosis is unequivocally bad.

Moniz at first used alcohol injections into the centrum ovale, but later, bilaterally cut 3 cores, 1 mm in diameter with a leucotome, leaving the cut tissue in situ. The operation itself is relatively simple to perform in the hands of a skilled neurosurgeon, however, certain dangers are present. One death has been reported, as well as hemiplegia in a second case. If the frontothalamic tracts which lie mesial to the centrum ovale, are cut voluntary control of bladder function is lost and this is reported in several cases.

Of interest, from the standpoint of better intramural management or of living outside of a hospital with some supervision, are the results Grant has obtained with at least four schizophrenics who were chronically assaultive, homicidal, denudative and almost continuously requiring seclusion. They are now on a greatly improved level of behavior, indeed, one manages all her own affairs protected only by a trust with a "spend-thrift" clause, while a second has normal contacts with friends and family who before were unable to approach her without danger to themselves.

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CHAPTER VII

THE SCHIZOPHRENIC REACTION TYPES

I INTRODUCTION

Schizophrenia, the mystery of psychiatry, constitutes a challenge to investigators in every field of medical research. Kraepelin's designation *dementia praecox* has gathered unto itself unhallowed traditions and has become somewhat synonymous with hopeless chronicity. The so-called "dementia" is not to be measured by the usual criteria of dementia nor is the psychosis in its onset confined within the adolescent period, even though its greatest incidence is in the second life decade. Bleuler in 1911, introduced the name schizophrenia, a better designation since it names the fundamental splitting of the personality.

Schizophrenia is scarcely a clear-cut disease entity but a reaction type—a maladaptation. Very frequently the end state is one of deterioration which particularly involves the affective life in its responses to the environment. The label "dementia" should never seal a case record unless there is unmistakable evidence of real and lasting deterioration. The student and practitioner should be engaged with an observation of facts—the development of the condition, range of personality assets of the patient and a careful weighing of factors of modification and adjustment.

The etiology of schizophrenia is unsettled; its pathology unknown and its clinical limits in dispute and yet it is a more serious problem than either tuberculosis or carcinoma. There are twice as many hospital cases of schizophrenia as of tuberculosis. Each year not less than 30,000 to 40,000 individuals, soon after adolescence or in the first flush of

manhood or womanhood, fall victims to this condition. Annually, 75,000 new patients are admitted to state hospitals and at least one-fourth are schizophrenics. Unless an adjustment is accomplished during the incipient and early stages, they are condemned to a veritable living death, devoid of emotional life as others savor it and barred from participation in the normal activities and affairs of living.

II. PATHOLOGICAL AND ETIOLOGICAL SUMMARY

The numerous pathological theories which have been advanced to explain schizophrenia are hopeful confessions of our ignorance. Nissl and others in Germany are convinced that there is actually a degeneration of the cortex. H. Josephy found changes in the brain cells, especially marked in the third and fifth cortical layers and in the frontal and temporal lobes. His work is said to have been confirmed by Naito. Funfgeld describes lipoid sclerosis in the third cortical cell layer and lipoid deposits and progressive glia changes in the optic thalamus. Marcuse claims to have identified double nuclei in some of the ganglion cells of the thalamus and also marked lipoid degeneration. Kitabayashi thinks that the pathology of praecox is to be found in the choroid plexus. Alzheimer in a few acute cases demonstrated ameboid glia cells which he regarded as highly significant and specific enough to be correlated with schizophrenia. He had far less confidence in the findings from more chronic psychotic material. The careful reports of Goldstein, Nissl, and Orton, who in an instance of "catatonic hirntod" discovered a considerable increase of lipoid content in the ganglion cells and the presence of ameboid glia cells, especially in the deeper cortical layers and white matter, are all interesting but decision must await the study of more material. Freeman reported that fat, pigment, birefringent masses are probably present in greater abundance in the thalamus and globus pallidus in the schizophrenic than in the normal, that intracellular

fat appears precociously in the basal ganglia in schizophrenia and that calcareous degeneration of the blood vessel walls occurs with astonishing frequency in young schizophrenics. Spielmeyer is convinced of the organic nature of schizophrenia but believes it is still to be demonstrated. Penfield has recently demonstrated a glial reaction in cortical tissue removed at operation from living schizophrenic patients.

Probably the outstanding claim for specificity comes from Mott of England, who among other endocrine findings singles out primary testicular or ovarian atrophy with attendant endocrine dysfunction and final brain pathology. His work has been severely criticized. Morse showed that the ductless gland changes may be unrelated to schizophrenia and that it is very difficult to determine the normal histological endocrine pattern. Lewin thought that the endocrine changes he found were probably due to intercurrent and chronic disease, especially tuberculosis.

It is somewhat discouraging from the standpoint of the angle of neuropathology to record the opinion of Dunlap, who after a study of controlled material with satisfactory clinical criteria concludes as follows: "For us the changes in the brain of schizophrenia are not only inconstant and non-specific but they are such as may be found in any series of control cases, in other words, their significance for the disease process seems to be without importance."

With the conception of a foundation brain pathology in such very grave doubt, the question of etiology must be very conjectural. Some hypotheses are sweepingly somatic like the somewhat naive belief of Cotton in focal infection. Kraepelin held to the idea of metabolic auto-intoxication as a result of disturbances in the gonads. Other theories practically ignore the somatic aspects and advance various psychological explanations of the schizophrenic splitting and withdrawal from reality. The psychoanalytic school has offered interesting explanations of the various schizophrenic

phenomena, perhaps particularly of the regressive phenomena, but the etiological conceptions are scarcely convincing. Sex factors are important and the actualities of sex frequently seem to be the rocks against which the potential schizophrenic craft is broken

The age epoch cannot be disregarded. About 70% of the cases occur between the ages of fifteen and thirty. Schizophrenia is more common in males than in females, its onset is earlier in males, it is more prevalent in cities than in rural districts; its incidence is higher in the foreign born than in the native population; in this country it occurs more frequently in Irish, Polish, Austrian, Hungarian, Russian, Finnish, Greek and Italian immigrants and it is more prevalent among the negroes than among the whites (Pollock)

Heredity cannot be disregarded. An average from the investigations of a number of authorities would indicate that there is a family history of mental disease, particularly in the siblings, in about one-half the cases. Pollock, Malzberg and Fuller have made a careful study of this phase of the problem and state, "It is clear, therefore, that though there is probably a familial basis for the origin of many cases of mental disorder in the family stock of probands with dementia praecox, the observed frequency cannot be described in Mendelian terminology

In the discussion of the application of Mendelism to the inheritance of manic-depressive psychoses, reasons were given for doubting the theoretical basis underlying the application of such laws to mental disorders. The reasons appear even more cogent in connection with the inheritance of dementia praecox. It should be noted that these methods which enable us to classify the parental generations in plants and animals in Mendelian terminology are largely inapplicable in the case of man, and the genotypes representing dominance among the latter are therefore a matter of

supposition rather than of observation. This uncertainty in the parental generation clearly affects the validity of the interpretations of the filial generation. In the second place, as pointed out by Bleuler, there is grave doubt that we are dealing with a unitary disease in the case of dementia praecox, and it is entirely possible that the etiology may differ in the several types. Furthermore, there is reason for believing that environmental agencies affect the origin and course of the disease, and thereby influence the totals of affected offspring. The fact that the latter are so much less than the totals required by Mendelian theory points to the probability that, though inheritance plays a general role in the transmission of these diseases, environmental influences nevertheless are also important factors."

The knowledge available is best utilized and the way for future acquisitions of knowledge is satisfactorily left open by the psychobiological viewpoint of Meyer. Schizophrenia is viewed as a reaction type, the result of repeated failures of the individual to adapt to the environment. If a long section perspective of the patient's life reveals repeated inability to face important, concrete situations, culminating in one of the conditions that are looked upon as schizophrenic, then the diagnosis is justified. One will find instead of a direct frontal attack upon the problems of life or more or less satisfactory compromises, an habitual resort to day dreaming compensations concerning work, sex, competition, etc. Evasions of the realities of life by the utilization of hypochondriacal trends, suspiciousness, fault finding, bizarre religious motivations, marked and pathological stubbornness, brooding, seclusiveness, etc., are prominent in the social maladaptations and life histories of the patients.

Meyers' point of view is illustrated by the following life history and chart.

CASE 45 *Typical Case of Hebephrenic Schizophrenia with characteristic symptomatology Rapid deterioration*

LIFE CHART

	Year	
	1896	Born in Phila Fourth in family of six
	1897	Walked and talked at 1½ yrs "Nervous"
	1898	
	1899	
Whooping cough	1900	Constant friction in family caused by religious differences and father's drunkenness Father Catholic, mother only Protestant in the family
Measles	1901	Children sent to Baptist Church Brothers and sisters quarrelsome
	1901	Began school Very apprehensive Afraid teachers would "holier" at her Never made friends with other children Refused to jump rope and play games
	1903	No trouble with lessons Excellent marks No interest in classmates Children took advantage of her
		Suffered because of inability to mix
	1904	
	1905	
	1906	Mother died Did not cry "Sat still and worried" Taken out of Public School (4th grade) and sent to a private school (Lutheran-German)
	1907	
	1908	Did great deal of housework in addition to school work Returned to Public School Adjusted better (6th grade).
	1909	More household duties, including family washing Left school—7th grade
	1910	Began work as topper in hosiery mill, continuing to onset of illness in same place Onset of menstruation Came home from mill crying Thought she was bleeding to death from TB Sister teased and said she should be ashamed
	1911	Sat next to girls at work who practiced mutual masturbation Several of these girls became illegitimately pregnant Was told vile stories of sex relations
Swollen gland in neck	1912	Only man friend patient ever had discouraged by her—
Much sore throat continually to 1919	1913	"no time to bother" Girls at mill teased her—called her "old maid" Attended lecture at church on "self abuse causes insanity"
	1914	Disturbed for a long time following this. Felt it was her responsibility to save men of her family from unknown dangers and was too shy to mention it Three of her family married, three at home including ne'er-do-well brother Patient and sister doing all housework, in addition to working from 7.00 A M to 5 20 P M in mill
	1915	No time for recreation No interests outside except Sunday School once a week
	1917	
Influenza	1918	Father had stroke Helpless Patient bathed and dressed him before going to work.
	1919	
	1920	
Depression	1921	Patient and sister jointly filed complaint at Court to secure financial help from married sisters and brother to support father Said they were under constant mental strain Help refused Case withdrawn
Delusions, hallucinations, ideas of influence		Began to feel "best of life was gone."
Masturbation Admitted Psychopathic Hospital 10-22-22 discharged 11-24-22	1922	
Admitted to Psychopathic Hospital 7-14-23, transferred to Mental Hospital 7-27-23 Ran away 8-12-23	1923	Worked Worry over money matters in connection with sale of home Accused real estate agent of doing her great wrong Went to police

Mental hygiene hints obtained from study of case K. A. Female 25 years. Single. Factory Worker

Personal History.—Normal birth and development. She showed the same oddities in childhood as later in life. She had the usual childhood diseases. She had a severe attack of influenza in 1918. Her school history was one of many changes. From an early age she showed poor adjustment, as illustrated in the accompanying life chart. She has been working in a hosiery factory with practically no advancement. Her work was very tedious and monotonous. She was over-stimulated by her associates who referred to her as an old maid, since she was extremely prudish and the girls enjoyed teasing her and talking continuously about sex topics. This was always a source of great annoyance. Her habits were normal regarding eating and sleeping. She practiced self-abuse during the past few years.

Personality Make-up and Situation.—Patient has been very seclusive and reserved from childhood. She has always been over-attached to her father and despite her long hours of work in the factory has waited on him day and night since his stroke. (See life chart.) Her older brothers have never contributed anything to the support of the family, and she was imposed upon at an early age by the other members of the family. She has always been very much disturbed over sex problems, especially since she heard a lecture on self-abuse several years ago. Patient felt inferior to the other girls and reacted very poorly to teasing. She had a constant feeling of "being tortured" in her work. She showed an inability to mix with people from an early age (see life chart) and was inclined to day-dream excessively.

Physical Examination. Patient was markedly under-nourished, being twenty pounds under-weight. There was a diffuse acneform eruption over the face and back. Examination of all the systems was normal. Blood pressure was low, 100/70. Urine examination was negative. Blood

chemistry negative Red blood corpuscles, 4,600,000. Hemoglobin, 75% White blood corpuscles, 9,240 Normal differential Spinal fluid examination was negative.

Onset of Present Illness. Began September 19, 1922, after a visit to a dentist's office. She talked irrelevantly. She felt that the dentist was in love with her and that he had some influence over her "He made me do things" She became careless of her personal appearance and very untidy, at times exposing herself. Later she began hearing voices which made her confess onanism, which had been a source of worry to her for a long time She felt that people on the street were talking about her, claiming that she was a bad girl The girls in the factory disturbed her in various ways She imagined that she must be making people crazy. She had prolonged periods of laughing and smiling to herself, and at other times was depressed. Relatives said that she threatened suicide A week previous to admission the patient became very agitated, following a court proceeding against her older brothers for support of their invalid father. At one time she felt that she was facing death but stated that she was willing to die in order to "leave some pleasure in the world" and to "save the world." Voices asked her if she had intercourse with men and referred to other sex topics She complained of seeing different animals, especially a dragon She became very religious, insisting on going to church for long periods, attending confession, etc She felt that she should change her religion. There has been a gradual decline in her physical condition since onset of present illness.

Mental Examination. General Behavior. On admission the patient showed many oddities of behavior. She frequently smiled and laughed to herself She was impulsive, antagonistic and resistive, at times abusive to those around her whom she accused of torturing her in various ways

Stream of Activity and Talk—Her talk was extremely irrelevant. At one time she spoke of the Catholics and Jews being "against her" and said that she had to die. Spoke about electricity, self-abuse, various religious events. At these times she assumed an attitude of prayer, moving her lips inaudibly, never, however, showing any waxy flexibility.

Mood and Special Preoccupation Affect—Inadequate and apathetic. She showed a tendency to laugh and be silly when asked about her father's condition.

Ideas of Reference.—"People talk about me and point to me on the street and say that I am a bad girl. This has been going on for two years." At times she had an idea that her food had been tampered with and something put in it in order to make her sexually excited.

Auditory hallucinations were present. She heard voices that accused her of self-abuse and told her that she must die. At times she reacted to visual hallucinations, stating that she had seen a dragon, which on close questioning she associated with the feeling of death. Ideas of influence were present. The patient felt that she was under the control of electricity and also under a mental spell due to telepathy and thought waves.

Sensorium and Intellectual Resources—Sensorium could not be tested adequately. However, the patient was oriented regarding time and place. She recognized the examiner as a physician. Her memory showed no defect. She was able to describe in fair sequence different events of her past life. Retention, grasp of general information, and calculation could not be tested owing to the patient's agitation. No insight into her condition. She thinks that there is "nothing wrong" with her mind and she should be discharged at once.

Course in the Hospital. The course in the hospital was one of progressive deterioration. She became increas-

ingly careless of her personal appearance and later refused to go to the toilet. She was sloppy in her habits at the table, frequently eating with her fingers. She became increasingly delusional about the ward doctors, thought that they were tempting her in various ways and felt that she was under their influence through mental suggestion which caused her to masturbate shamelessly during the day as well as at night. She continued to smile and laugh to herself. She occasionally attacked the other patients without provocation. She did not react well to hydrotherapy. Committed after two months' observation. Physically she improved after course of sodium cacodylate, general tonic measures and relief from constipation. A tonsillectomy was also performed.

DISCUSSION

The discussion of this typical case of schizophrenia may be limited to the following:

1 What indication was there in her early life that the patient might develop a psychosis?

2 What means were there then at our disposal to prevent this psychosis?

The life chart shows the following. At the age of four (formative period) the patient was in a turbulent home environment. At the age of six she was afraid of her teacher, very apprehensive and showed an inability to mix and thereby avoided reality. At the age of ten she showed an inadequate emotional reaction following her mother's death. At the age of fourteen she did not meet the problems of adolescence adequately, with the onset of menstruation she imagined that she was dying from tuberculosis and later she shunned all sex topics. The next few years of the patient's life were characterized by teasing in the factory, masturbation worries, conflicts and over-stimulation along sex lines, chiefly due to her factory associates and environ-

ment.' A lecture heard at church—"Self-abuse Causes Insanity," resulted in increased conflict. At the age of 22 her father had a stroke and it was necessary for her to wait on him morning and night in addition to her factory work. She also had a severe attack of influenza at this time. At the age of 25 the patient filed a complaint in court against her ne'er-do-well brothers but help was refused. After visiting a dentist she developed various delusions, hallucinations, ideas of influence, and behavior oddities as noted in the history.

Could these pre-psychotic trends have been recognized and relieved through early and prompt treatment?

Examination of this child at a pre-school age could have led to a better habit training and possibly have prevented the formation of a seclusive and shut-in type of personality. Certainly this step is logical and the increasing statistics from Out-Patient Departments and Children's Guidance Clinics prove that this has been done helpfully in a number of pre-school and adolescent children. A study of our patient during the period of adolescence certainly could have resulted in instilling better ideas concerning menstruation and sex hygiene. She, thereby, would have reacted better to teasing and would not have been forced to over-compensations, by being prudish and withdrawing from contact on the basis of her mental conflicts and repression. Instead of a lecture stating that self-abuse causes insanity, perhaps a careful talk regarding the physiology of the reproductive organs and the phenomena of masturbation would have prevented any further withdrawal from contact and would have led to sublimation and better adjustment to her environment, with real happiness and efficiency. In further consideration of this case, fatigue and a weakened physical condition play important roles. The improvement of the home situation is an example of one of our very important social needs and it is now being met by welfare agencies

III SYMPTOMATOLOGY

Physical Summary. While the physical findings are non-specific they are nevertheless important

Attempts to delineate a predisposed physical habitus have not been entirely unsuccessful "There is a clear biological affinity between the psychic disposition of the schizophrenic and the bodily disposition characteristics of the asthenics, athletics and certain dysplastics." (Kretschmer.) Raphael and his co-workers report from careful study of schizophrenics "a rather definite type-trend of soma obtains differing in its nature strikingly from that occurring in manic-depressive material. The body organization on the whole tends toward the linear cast of habitus, with a relatively small narrow face and head and a long, narrow, shallow and less capacious type of trunk" Lewis reports in hebephrenia and katatonia a cardiac and circulatory aplasia Gibbs emphasizes abnormal hair distribution—"vertical pubic hair, and hair on the face and elsewhere, being frequent in his female patients, and a horizontal distribution of hair, often with scanty hair in the beard area, being common in males Abnormalities in the texture of the hair, nails, and in size and consistency of the testes have been reported more commonly in schizophrenia than in any other mental disorder.'

Vasomotor-sympathetic symptoms are frequent, low pressure, cyanoses, localized sweatings, edemas, dilated pupils, absence of psychic pupillary response, increase in salivation Langfeldt finds vagatonia in katatonia and sympathicotonia in hebephrenia Vertiginous and epileptiform attack may occur

Tuberculosis is strikingly common in institutionalized cases Katatonic patients often show a low basal metabolic rate. Subjective complaints, gastro-intestinal upsets and constipation are frequent The schizophrenic, particularly

during the acute phases of the psychosis, is undernourished and underweight

Laboratory workers have reported provocative findings Kasanin noted a high sustained sugar curve during stupor, Hertz found shortening of blood coagulation time, Whitehorn discovered abnormally prolonged hyperglycemia following glucose ingestion and that the inorganic phosphates of the blood plasma are diminished, Bowman, in addition to other findings, reported a positive galactose test, infected teeth in 40% of the patients, "dropped" heart in 30% and in general evidence of polyglandular disorder, Henry utilizing roentgenological examinations reported definite changes in gastrointestinal motor function more marked in acute cases, a visceral reaction to intense emotions similar to that of the somatic response of lower animals to fear and rage, a colon very susceptible to sympathetic control and the retention of barium or food residue in the colon for more than five days, Malamud and Rothchild discovered in schizophrenia uncomplicated by somatic diseases, that the ratio of the bromide distribution between blood and spinal fluid was in 60% of the cases above 3 20, in 38% between 2 80 and 3 20 and in 2% below 2 80, Trentzsch feels that a low score in his neuro-circulatory test¹ is indicative of early schizophrenia

Mental Summary. An introduction to the symptomatology of schizophrenia perhaps will be best accomplished by the brief presentation of three cases. They are purposely unselected and are average examples of schizophrenia Their presentation will be followed by tables of symptoma-

¹ The heart rate and systolic blood pressure of the patient is taken in both the standing and reclining positions The patient next steps up and down, five times in fifteen seconds, using a chair, about 18" high After this his pulse rate is immediately taken The length of time that is required for the pulse to return to normal, is also noted The results are tabulated and scored A rating of 10 points or more is considered high or normal, while ratings below 10 are considered low

tology and a discussion of the interpretation of schizophrenic psychopathology.

CASE 46 This young man is thirty years old. One maternal uncle committed suicide in middle life but otherwise his family history is negative. His mother, who gave the history, described him as a quiet and "good" baby and child. During his 'teens he was shy, diffident, and reserved, did not like athletics, read a great deal, liked to be alone in his room, was painfully awkward and embarrassed at parties and was afraid of girls. He did exceedingly well in his studies and had excellent grades in high school and college. In college he had no friends excepting his roommate.

He wanted to study medicine and in 1924 was admitted to a Class A Medical School. His first year was uneventful. Apparently, the second year was hard for him. He complained that the work was difficult, developed headaches, could not concentrate and lost weight. He said several of his professors had "it in for him" and had him "spotted for a flunk."

One night while alone in his room in a students' boarding house, studying for final examinations, he suddenly leaned out of the window and screamed loudly "You dirty s—s of b——s, stop flashing that light in my eyes." Then he was brought to the psychopathic pavillion.

He has many of the classical symptoms of schizophrenia. Often he is mute, but from time to time he will talk in a fragmentary manner about his persecutors. He calls them "mentalists." They disarranged his thoughts so that he could not study medicine! They call him vile names—"dirty dog," "sex pervert," etc. At night they direct a powerful "N Ray" at him and rob him of his semen, etc. You will note that as he speaks of these happenings, he is little or not at all disturbed emotionally. He is not angry or violent or even worried, as one would expect a man to be

who believed himself subjected to abuse, torture, and persecution. Often he simpers in a silly fashion, there have been several periods of katatonia during which he was mute, made no response to pinpricks, had to be fed with a nasal tube and would retain his limbs in awkward positions for long periods of time.

You have observed that his coat is decorated with odds and ends of brightly colored trash. On his head he wears an old overseas cap with a tin gilt star pinned to it. Occasionally, he raises his right arm extending the index finger. From the notes it appears that this indicates that he is "the Highest Potent." In spite of this he does various odd chores about the ward and is not above retrieving and smoking half-consumed cigarettes.

CASE 47. The next patient is a young woman, twenty-three years old. Her father was a ne'er do well who served several short sentences in the county jail for various minor offenses. Finally, he was shot and killed in a street brawl. Her mother and two older brothers and one sister are plain, uneducated, honest, hard-working people.

Her mother tells us she was always a "good" girl but very different from her sister who liked boys and parties. Mary, the patient, was always serious and "worrisome." In school she studied hard and "fussed" about her lessons. She went to church a great deal and was very conscientious. She was meticulously neat and clean and modest and did not even like her sister to see her unless she was completely clothed.

As a child she was not given any sex information and was not prepared for the first menstrual period. When this appeared she was greatly upset and felt that she had "sinned."

She worked in a stocking factory and did routine work well. However, she wanted to do better and in addition to her work she went to night school. This she had to abandon because

of poor health. She was bitterly disappointed and called herself a "failure."

She did not get on well with the other girls in the factory. They thought she was "high hat." She did not "know how to talk to them" and was shy and often painfully embarrassed when they discussed their boy friends or told off-color stories. She had an acne skin eruption and thought "the girls talked about it."

Her mother states that "Mary wanted the boys to like her and wanted to be nice to them but did not know how." Her sister teased her about this.

One young man did seem to be very fond of her and called a number of times to see her. Following his last visit, Mary became "moody," spoke very infrequently, "stared," and occasionally smiled without reason. One afternoon soon after returning from work, she went into the bathroom, took off all her clothing, and lightly gashed her wrist with one of her brother's discarded razor blades. Then she began to scream and continued to scream for fifteen minutes. Her mother came to her assistance and she was brought to the psychopathic pavilion. This was seven months ago.

Soon after admission she became katatonic and for two months was mute and had to be tube-fed. She was often untidy and would lie on the floor with her arms outstretched in the shape of a cross. Occasionally she emitted piercing screams and once talked in a high pitched voice for about thirty minutes, scolding and apparently answering voices.

During the past few months she has been quiet. The most frequently occurring adjectives in the nurses' description notes is "silly." Hour after hour she smiles in a foolish, vapid manner. Sometimes she whispers and when the words can be distinguished, they are "Queen of Heaven"—"Heavenly Lover"—"Immaculate Conception."

She does not show any interest in occupation in the shop but helps carry trays in the ward.

CASE 48 This man is older than the other two patients. He is forty-two years old. There is nothing remarkable in the family history. Our records of his early life are not very extensive but we do know that as a boy he was "bright, unsociable, and seclusive", as a young man, "odd, eccentric, antagonistic, and had few friends". He graduated from high school and then spent a bit more than a year in a technical school. He was requested to leave this school after a bitter quarrel with one of the faculty. He has told us that he is an inventor. He was brought to the psychopathic pavillion because six months ago he went to the City Hall, saw the Secretary to the Mayor, and told a confused, rambling story about his persecutions by his enemies.

He has just told you his story ¹. As you see, it is not easy to follow. To begin with it is very illogical and quite vague. He has talked for about half an hour and there is left in our minds the thought that he has many enemies who are striving to keep him from putting on the market an invention. Furthermore, these said enemies persecute him and injure his reputation by spreading vile stories about him so that he cannot hold a job. He mentioned the names of many men in high positions who are presumably in the plot against him. His persecutors send electric currents into his body, they control his thoughts, repeat his thoughts, make his heart palpitate; at night they scream abusive epithets at him, etc. He doesn't know why they do these things, excepting that they may be jealous of his inventions. As he tells his rambling story, he does not react emotionally as should a man who is being tortured and tormented. When asked if he wants to leave the hospital, he answers "some time". On the wards he is usually pleasant and cooperative with the nurses and is willing to help them do menial routine work. He will not, however, converse with the other patients nor will he sit at the same table with them.

¹ These three patients were shown in Dr. Strecker's Clinic.

He is humored about this and has his own table. In his buttonhole he wears a bit of frayed red cord. When asked questions concerning its significance he refuses to answer, but it is observed that he often looks at it and touches it. Occasionally, he attitudinizes and stands stock still in a very erect position. He will give no explanation of this mannerism.

Since the final schizophrenic maladaptation occurs in many human beings who present numerous personal differences and, since too, the settings in which the series of maladaptations finally crystallize psychotically are often dissimilar one may expect a varied and profuse symptomatology. Fundamental symptoms may not be as conspicuous as less motivating ones but a fair cross-section of characteristic symptoms would be as follows. Seclusive make-up, defects of interest, discrepancies between thought, behavior and emotional reactions, emotional blunting, indifference, silliness, defect of judgment; hypochondriacal notions, suspiciousness and ideas of reference, odd, impulsive, negativistic conduct, usually without relation to observable emotional disturbance and often with a clear sensorium, autistic thinking, dream-like ideas, feelings of being forced or of interference with the mind from the outside, physical and mythical influences, etc.

The symptomatology is briefly presented in tabular form

1. *General Behavior*.—Oddities of many types, silliness, incongruity, stereotypy, mannerisms, impulsive outbreaks, untidiness, and dilapidated appearance, marked mental inertia, rigidity and attitudinizing, echopraxia, negativism, katatonia

2. *Stream of Activity and Speech*—Incoherence, rambling, blocking, evasiveness, verbigeration, "word salad," neologisms, echolalia, mutism

3. *Mood and Special Preoccupation*—(a) Dissociation of affect and thought, inadequate and incoordinate affect,

ambivalence, emotional blunting, indifference, apathy, unreality feelings, etc.

(b) Trend reactions, topical reactions, projections.

1. Suspiciousness, persecutory ideas, feelings of mistreatment, food tampered with, poisoned, "doped," etc. *In 200 consecutive cases of schizophrenia paranoid ideas were present in 118, and of these 34 were of religious type, 31 had ideas of being "doped," food poisoned, 20 were actively homicidal, 33 had poorly systematized delusions concerning the Catholics, Masons, Klu Klux Klan, etc. The age of greatest incidence for paranoid delusions is from 35 to 40*
2. Ideas of reference—feelings of being talked about, people pass remarks or do things that "refer" to the patient *Ideas of reference were prominent in 30 of 200 consecutive cases*
3. Ideas of Influence. *These ideas were marked in 60 of 200 consecutive cases—of these two-thirds were in the nature of hypnotic influence, the remainder being of a mechanical nature, x-ray machines, hypodermic injections, radio apparatus, electrical influence*
4. Hallucinations in various fields, the auditory hallucinosis being frequently of a religious pattern on the basis of over-compensation. *Hallucinations were prominent in 130 of 200 consecutive cases, 85% were auditory, 12% visual, 3% smell, taste and touch*
5. Bizarre somatic sensations and delusions. *Organs removed, vagina stopped up, electric sensations, electric wires connecting brains, organs transposed, outside material introduced into body, snakes in stomach etc. Appeared*

in 43 of 200 consecutive cases, particularly in late developing schizophrenias

6. Over-compensation in the form of day-dreaming phantasies, being God, a saint, a prophet, leader of religion, etc *Appeared in 23 of 200 consecutive cases*

- 7 Unintelligible and unexplainable activity

4 *Sensorium and Intellectual Resources*—Orientation, memory, retention, grasp of general information, calculation, etc., are not seriously impaired *Insight was totally lacking in 85% of 200 consecutive cases*

IV PSYCHOPATHOLOGICAL DISCUSSION

Without the guiding hand of sufficiently complete etiological-pathological information we can only hope to speculate upon the probable significance of the leading symptomatic trends. We must work with the few facts that are available and one of these facts would seem to be that the schizophrenic maladjustment appears more frequently in a certain type of personality.

In the brief historical sketches of the pre-psychotic personalities of patients Nos 46, 47 and 48 and, indeed, in the histories of almost all schizophrenics such adjectives as "quiet," "shy," "reserved," "cold," "different," "unsociable," "seclusive" and the like often recur. If one was to attempt in a few words to give a social cross section of the make-up of these individuals before they became psychotic, it might be fair to say that they did not meet the realities of their environments satisfactorily. Since they seem to be the antithesis of the social, energetic type, the extrovert, we might label them, at least, temporarily, as introverts.

The person who tends to be a thinker rather than a doer is apt to be an introvert. Introversion means the turning-in of the mind or self onto its own problems. The introvert gets his chief pleasure from within himself—the extrovert,

from without. The kingdom of the mind and thought or the external world are their respective spheres. Thought is pale, nonvital, unreal, to the one. Action is irrelevant or valueless to the other. The introvert is inclined to be cold, apparently gloomy, unsociable, and rather inactive. Their feelings are seemingly not strong and they do not express them readily. They are not the executives who get things done, but the planners and theorists. They are inclined to be the visionaries.

Each of us is more predominantly one or the other of these types, but most of us have elements of both. It is good to know our tendencies with regard to introversion and extroversion so that when we find one side of our nature developing excessively, we may consciously compensate and direct ourselves. One type is not more desirable, admirable, or more useful than the other. The world needs both, like the conservatives and the progressives. The extroverts get things done, they are executives, the men of the world, the sociable, and cheerful people. The introverts are those who supply innovations and plan for the future. The present belongs to the one, the future to the other. From the lack of sociability, and from their detachment, introverts see more clearly problems and solutions which never occur to the extroverts. The introverts are the dreamers and inventors. Many of the greatest discoveries have been made by them. Both types developed to the extreme are equally useless and harmful, the extrovert in senseless overactivity; and the introvert in aimless phantasy.

There is much similarity between the introvert and the conception of the schizoid of Blueier and Kretschner. Blueier writes of the schizoid as follows: "The schizoid retains his independence toward his surroundings, he strives to withdraw from the affective influences of the living as well as the dead environment and to pursue his own aims. In pathological states this may develop into active, hostile,

or passive dereistic¹ (de reor, away from reality) attitudes, and in milder forms it still leads to a seclusion from reality or to an active transformation of it for one's own aims, or to an adjustment to reality by means of inventions. The schizoid person may be persecuted or litigious, but he seeks and always finds new paths and outlets . . . the lack of respect for reality and for existing things leads on the one side to an effort to change them somehow, and on the other hand to turn into oneself . . . In contrast to the syntonic (extrovert) who has the ability and will to live through his reactions to outer influences and thus settle them, the schizoid can keep them from discharging, thus saving the motive power for later times and then add it to the feelings tending in the same direction. He thus not only saves force but time and opportunity for reflection and modifications of past inner and outer circumstances "

✓ The schizoid is not in himself mentally abnormal. "Thus, the expression schizoid now designates a type of psychic being and psychic reaction which exists in everyone more or less pronounced, in its morbid aggravation it manifests itself as schizophrenia, but in its milder development it is seen in the psychopath hitherto designated as schizoid without, however, reaching to the degree of being called a psychotic" (Bleuler). Nevertheless, the roots of schizophrenia are firmly embedded in schizoid soil

✓ The person who is schizoid to a dangerous degree does not find the world a pleasant place in which to live. He does not successfully meet reality and his sensitive nature shrinks from "the slings and arrows of outrageous fortune." Secretly he probably envies success in the abstract but he hesitates to take the real concrete steps which make for this enviable state. With the dexterity of thought which he possesses he clothes everything in garments of idealism

¹ "It is characteristic of this 'dereistic thinking' . . . that it totally ignores any contradictions with reality."

Sex is beautiful but its actual physical contacts are not pleasant in his mind. Success in any field is desirable but competition is distasteful to him. Unquestionably there is always in his mental life the conflict between the desire to grasp the fruits of endeavor in every phase of life and the shrinking from the bold and positive efforts that must be made before the victory is secured. Without doubt, sooner or later he comes to the crossroads of his mental life, and there must be some decision as to which path he will tread. Shall he continue the hard battle of facing reality or may he take the easier road? Already he has succumbed to the temptation of excessive day-dreaming. It is unreal but pleasing. In this way all the hard knocks of reality are made to disappear and his hurts are soothed.

The schizoid, however, has great capacity for introspection. ✓ Thought is at once his greatest security and his greatest danger. One may picture the potential schizophrenic at this stage as courting unreality in his day-dreams. If his ultimate fate is to be schizophrenia, he loses some small part of his hold on reality almost day by day. Finally comes the time when judged by the criterion of the world as applied to himself, the verdict of failure is unescapable. His ego, still strong, cannot accept the conclusion that he did not succeed because, in truth, he could not face the struggle that is necessary.

Theoretically we are now at the stage where the psychosis is about to come to his rescue. In this connection, it is interesting to note how often the first outspoken symptoms of schizophrenia are, in effect, unconscious and pathological excuses for the inability to persist in some field of endeavor and overcome the obstacles which are in the way. For instance, in the three patients just presented to you this phenomenon was strikingly illustrated. When the medical student came to the end of his mental string, he suddenly leaned out of the window and screamed loudly—"You dirty

s—s of b——s, stop flashing those lights” The second patient, the young girl, became “moody,” “stared” and went into a panic during which she made a foolish attempt at suicide in the wake of her first and probably only love affair. The last patient made a scene in the City Hall because he believed himself persecuted on account of his inventive genius

We have briefly indicated a few of the preliminary psychological considerations which seem to underlie the development of schizophrenia. You will recall that first there is a personality, introverted to a dangerous degree. This personality is badly equipped to come to grips with reality. Too often the unsuccessful struggle conditions a retreat and a yearning for that world of unreality and phantasy in which no effort is required to make dreams come true. Eventually even feeble attempts to dominate the real cease and the break from reality occurs. Since the ego must be absolved the blame for failure is projected outside the individual onto others or the conditions of things.

However, the drama of schizophrenia is not yet closed. If this were the end the patient would immediately retire into the ivory tower of phantasy and would have no more part in the world, as we know it, than if he were actually physically dead. This, of course, is not true; many of the early symptoms bespeak the fact that reality continues to knock at the door of the psychosis. There are panics, suicidal attempts, excitements, and the like. Again, some patients are reclaimed and recover. That means they abandon unreality and become what we call sane.

Various authors divide the psychosis, schizophrenia, into stages which to our minds seem artificial and leave out of account the psychopathology. There are only two stages. The first might be called the active stage and it lasts as long as the patient has not completely accepted the psychotic

material In other words, we may presume that he is still aware, however faintly it may be, of the claims of the real and concrete environment Once he succeeds in completely shutting this out, he lives wholly in phantasy and has entered the second phase of the psychosis. We speak then of his being "demented"

The break with the environment lessens the censorship of social criteria, and inhibitions rapidly disappear and uninhibited regressive and primitive speech and forms of behavior are employed to express deeply underlying and often archaic trends

What of the attitude of the schizophrenic toward environmental reality as the psychosis progresses? We have compared it to the attitude of a man who finds himself at a play which bores him greatly, but he is unable to leave the theatre. He has de-valued the play, is indifferent to it and escapes by recourse to pleasant and purposeless thinking

The thinking of the schizophrenic has been called vague It seems to have these characteristics (a) It is dissociated from emotional expression patterns and, indeed, from emotion as it is seen and understood in our world of reality. (b) Nevertheless, it cannot be said to be non-affective thinking and it frequently would seem as if it were strongly affectively determined without such interpositions and inhibitions as are constantly seen in reality. (c) It is chaotic thinking. Perhaps, each thought has its separate affect and in the disintegrated personality, there is complete lack of harmony and association, so that there is constantly conflict between individual thoughts. (d) This thinking is pathologically economic, i e. unlike actual and real thinking No logical or even loose steps of thought are needed to build to the summit of conclusion (pulling down a forelock of hair—"I am Napoleon,"—three gilt stars on a skull cap—"I am the Third Person of the Trinity," etc) (e) Thinking in

schizophrenia is wish-fulfilling and compensatory with only a minimum of interference from the intrusion of remnants of the pre-psychotic personality.

More careful clinical observations have taught us the great importance of the disorders in thought encountered in the schizophrenic reactions. These disorders are discussed at length in the first chapter and the student should refer to this section if he is to understand the distortions in thought and behavior encountered in this group of patients

Apparently much schizophrenic thought, affect and behavior is influenced by pathological ambivalence. Ambivalency probably exists normally and every idea, impulse, action etc. is presumed to have both positive and negative values. In normal mental life one of these values so definitely outweighs the other, that smooth uninhibited thought and action ensues. Ambivalent conduct results from the conflict between these values which, of course, greatly interferes with and, in fact may negate the performance of an action. Bleuler defines ambivalence as "specific schizophrenic characteristic, to accompany identical ideas or concepts at the same time with positive as well as negative feelings (*affective* ambivalence), to will and not to will at the same time (ambivalence of the will), to think the same thoughts at once negatively and positively (intellectual ambivalence)." It is possible that certain schizophrenic phenomena, negativism, mannerisms, stilted behavior, etc. may be influenced by ambivalence.

Catatonia is a cardinal schizophrenic symptom and its satisfactory explanation would be an important contribution. Stupor states may occur either with negativistic aspects or phases of extreme suggestibility. They may be inactivity, mutism, food refusal, "schnauzkramf," retention of urine and feces and saliva, insensibility to pain stimuli, stereotypes of speech and action, retention of unnatural, forced bodily positions for long periods of time, extreme negativistic

resistance against every attempt to move muscles as for instance when the examiner attempts to raise the eye-lids, catalepsy often to the point of waxy flexibility, echolalia, echopraxia, automatic obedience in which for instance the patient is unable to prevent himself from protruding the tongue after being told it will be pierced through and through with a needle. In the stupors, the patient recognizes his surroundings but seemingly is apathetic toward them.

Katatonic excitements are sudden and apparently purposeless, verbal and motor excitements that may reach the height of frenzy. They may alternate with the stupor and are often accompanied by hallucinosis. They may contain impulsive homicidal and suicidal attempts.

Katatonia has not been satisfactorily interpreted. An organic or chemical explanation is not to be too quickly discarded since at times, for instance the catalepsy seems to exceed physiological limits and since, too, it must be remembered that cataleptic phenomena may occur in certain organic nervous involvements such as cerebellar disease and encephalitis or be induced by drugs, such as bulbo-capine.¹ Psychologically, katatonic stupor might represent a complete shutting out of the environment. It has been described as the death portrayal, but this was emphasized by Hoch in his study of non-schizophrenic or so-called benign stupors.

The dissociation of affect has rightly been emphasized. A summary of the concepts of schizophrenic processes of several writers is as follows:

Stransky, "Intrapsychic ataxia—with the emphasis on the lack of harmony between 'noopsyche' and 'thymopsyche,' the affect and the content."

Berze, "Primary insufficiency of mental activity."

Chaslin, "Folie Discordante."

Urstein, "Intrapsychic disharmony."

¹ One of us has seen catalepsy repeatedly induced in white rats by pineal gland extract.

Meyer, "Habit deterioration, or we might say discrepancy between ambition and performance, with parergastic substitutions"

No single psychopathological theme can explain the varied schizophrenic phenomena but, the objective of withdrawal from reality makes many of them more comprehensible.

Precipitating Factors. Various situations, preponderantly somatic or psychic have been emphasized, notably influenza (Menninger) One of us made a thorough study of the precipitating situation in 200 cases of mental disease, 100 manic-depressives and 100 schizophrenics. Significant and important factors appeared in 52 patients; 32 being manic-depressives and 20 schizophrenics. Influenza, overwork and exhaustion, the climacteric and complicated childbirth were the most frequent somatic factors and cruelty, poverty, illness and death of relatives and unhappy love affairs were the most common psychic insults. The proportion of normal inheritance was considerably higher in that group of schizophrenics in which the precipitating circumstances were serious. Hutchings stated that "the precipitating cause is the agent which brings to the surface previously submerged cravings, and the psychosis is the attempt of the individual to solve the conflict between these cravings and the standards of adult life."

Onset. If the psychobiological long section viewpoint was carefully applied to each case it would be obvious that schizophrenia develops quite slowly, the milestones being a progressive series of more and more serious maladaptations. Much closer attention to the questionable traits and behavior of early childhood is needed. Henderson emphasizes bed-wetting, fears, ruminations, undue sensitiveness, and bashfulness. We should regard any definite and persistent difficulty with the reasonable and natural social standards of childhood as worthy of note. A few patients may break into schizophrenia quite abruptly

V. VARIETIES

The student is advised to avoid hair-splitting attempts to differentiate schizophrenia too closely. There is probably quite a gulf between the paranoid and the other forms but, by and large one is apt to find hebephrenic, katatonic and paranoid symptoms in a vast majority of schizophrenics. In the *simple* type interest is at a low ebb. There is apathy and strange behavior, and delusions and hallucinations are either abortive and fragmentary or absent entirely, in *hebephrenia*, usually beginning at an early age, there is silliness, unexplained smiling, laughter, grimacing, mannerisms and peculiar and changeable ideas which have an absurd and grotesque content, in *katatonia*, usually beginning a bit later than hebephrenia there is negativism and conduct peculiarity with phases of stupor or excitement marked by impulsive, queer, stereotyped behavior and hallucinations; in the *paranoid* type averaging much later in life in its onset than the other forms and occurring as late as 40 or even later, there are delusions particularly of persecution or of grandeur often moderately well systematized for a time at least, and hallucinations.

SIMPLE SCHIZOPHRENIA

CASE 49 Schizophrenia, simple type Marked loss of interest, apathy without expression of delusions and hallucinations. Frequent positions—inability to adjust in any of them. D. J. Age 24. Clerk.

Family History—Negative

Personal History—Normal birth and development Born September 16, 1899. Had the usual childhood diseases including scarlet fever at the age of six. Had an attack of influenza just previous to admission, no sequelae Completed grammar school and later was graduated from High School with a very good average He was very good

in English but poor in mathematics. Showed little interest in athletics at school. After leaving school he wished to work as a newspaper reporter, but his first position was in a hosiery factory as a clerk. He refused to stay there "because he could not master numbers" and went from one position to another, remaining but a few days at any one place. He was not accepted for military duty during the war.

General Makeup—Patient was described by his family as being very grouchy, obstinate, and stubborn. At school he apparently showed some ability in his English course as he was Exchange Editor on the school paper while in High School. He spent most of his time reading. He seemed to be interested in the opposite sex but was considered too serious minded and distant. After he left school he did not seem to be able to settle on any one line of work, becoming gradually very listless with no definite ambition.

Onset of Present Illness. In November 1917, the patient saw his uncle die and it seemed to affect him a great deal. He developed the idea that people were talking about him and became very indifferent, listless, and refused to work. Soon after the onset the patient was sent to a private sanitarium where he remained for six months. At that time he seemed to have lost all ambition but was improved by his stay. Since his discharge he has taken several jobs but could not hold them and refused to work regularly. Three years later the patient realized that his physical condition was not good, so he began to take lessons in boxing, thinking that this might improve him. He continued, however, to be a source of worry to his family. He left home February 28, 1921 because he had a quarrel with his father about not working. From that time on he did not see his family until March 1922 when he applied at the Hospital for a position as an attendant. His mental condition was recognized and he was accepted for preliminary

study in the Out-Patient Department and later admitted to the ward

Mental Examination. General Behavior — Patient showed no gross oddities of behavior of any type. He appeared indifferent to his surroundings

Mood and Special Preoccupations

Affect —Listless Showed poor emotional tone

Paranoid Ideas.—Vague and indefinite He felt that his parents had never given him a chance, that he had to leave home because they were “always forcing him to work” and that they could never understand him. Ideas of Reference.—He imagined at times that people were talking about him, referring to him as a loafer, as having a peculiar stare out of his eyes, etc No ideas of reference were present at the time of the examination. Ideas of influence were not elicited Hallucinations in all fields were absent

Sensorium and Intellectual Resources.—Patient was well oriented for time, place, and person. No defects of memory for remote or recent events He retained seven digits Calculation was good. Grasp of general information was fair Faulty judgment and insight. He stated that there is absolutely nothing wrong with his mind He was willing to remain in the ward, but refused to take any part in occupational classes

Course in the Hospital. Course in the hospital was uneventful. He remained very listless and apathetic, except for periods of excitement on visiting days when he was especially antagonistic towards his father This passed, however, into a period of complete indifference He refused to consider a return to work, although arrangements were made for him to obtain good employment outside. One year later after commitment there was practically no change in his condition. A period of parole resulted in his returning to the hospital after one month During

this time he was extremely lazy, vagrant, and shiftless. He was practically free of delusions and hallucinations

DISCUSSION

Such is the colorless picture of simple schizophrenia Kraepelin called it an "impoverishment and devastation of the whole psychic life, which is accomplished quite imperceptibly" Probably because it makes less friction with the environment than the other types, the diagnosis is often missed From its victims are recruited many tramps, delinquents and inadequate individuals.

HEBEPHRENIC SCHIZOPHRENIA

A typical example is given on page 383. It is an early appearing and rapidly deteriorating type of schizophrenia There are apt to be emotional phenomena (depression?), excitement, illusions and vivid hallucinosis, ideas of reference and influence, bizarre delusions, odd, impulsive behavior and incoherence of thought

KATATONIC SCHIZOPHRENIA

Katatonia which has been discussed is illustrated by the following case

CASE 50. Schizophrenia with katatonic reaction. Mutism, negativism, waxy flexibility. Periods of excitement. Typical schizophrenic personality make-up. Deterioration. S. T. Female. Age 17 yrs Single Factory worker Admitted January 13, 1920

Complaint Stiffness and nervousness.

Onset of Present Illness. The onset was Nov. 19, 1919, following the arrest of two Bolshevik workers in the button factory in which she was employed. The patient at this time was teased by the other factory workers and was told that her father and her sisters would be the next ones arrested. She returned home that evening expressing

great anxiety about her father and her sisters, stating that the Bolsheviks had followed her home and were going to kill her family. At 10 o'clock she became actively hallucinated, stated that she could see the Bolsheviks climbing the telephone pole on the outside, thought that she could see people looking at her from the walls of her room, and that she could see birds and geese. She said that she heard people saying that they "were going to arrest the whole family", they were "going to take her talents away from her". She thought that electric wires were connected with her brain, and that the Bolsheviks were going to twist her brains out. This period of visual and auditory hallucinations was quite marked during the next three weeks, during which time the patient showed extreme overactivity, shrieked, cried, prayed, and sang alternately. On one occasion while reacting to hallucinations she ran out in the yard at 3 A. M. in her night clothes, singing and praying. She quarrelled with the other members of the family, and on several occasions threatened to kill them. During this period of active hallucinations the evidence is that she was not delirious, since her sister stated that the patient knew where she was, and was in contact with her environment as well as with time. The patient had almost complete insomnia and all measures to reassure her were unsuccessful. In the intervals in which she was quiet she was noted to groan, smile, and laugh in a silly manner. Following this period of active excitement and hallucinations the patient, on December 8, 1919, had a fairly normal day. In the morning she followed her mother to church, and nothing unusual was noticed in her demeanor, except a tendency to stare at people. In the afternoon the patient was quiet, played the piano and sang with her sisters. After taking a walk in the early evening, at 9 o'clock she grimaced for a while and after that remained absolutely rigid in her chair. She became entirely uncommunicative and had to be carried

to bed. She had remained rigid ever since, has become completely bed-ridden. The patient refused to eat and it was only with great difficulty that her family and physician were able to force her to take a little liquid.

Personal History—The patient was born in Pennsylvania, April 11, 1900. Normal birth and development. There is a history of nightmares during childhood, also of enuresis. The patient had some difficulty when she first began to talk, and stammered until she reached the school age. She had occasional outbursts of temper. She was described as being extremely clean and orderly in her habits. She has always been very devoted to her father. There is a history of the usual childhood diseases. During the past year the patient has been subject to headaches of which it is thought eye strain is the most probable cause. She began school at the age of 6 and continued until she was 14, reaching the eighth grade. During the next year she remained at home helping her mother with domestic duties. At the age of 15 she began her present occupation—that of button maker in a factory. There are no special difficulties in this occupation; her work was considered very easy. The patient resented teasing by her associates. There is no history of autoeroticism. She received no sex instructions from her parents and gave no evidence of any abnormal curiosity in this sphere. Menstruation, which began at the age of 14 was always regular.

General Make-up—The patient was always considered very childish, peculiar, and different from her brothers and sisters. She was extremely seclusive, preferring to keep all her troubles to herself instead of discussing them openly and frankly with her mother as her other sisters did. She had very few friends among her factory associates or in her home circle and never tried in any way to seek the friendship of others. She reacted very poorly to teasing, frequently complained that people were making fun of her, talking

about her and mistreating her. Her sister stated that during the past year these traits have all become accentuated. Frequently in the middle of the night the patient has cried out for her sister and showed great apprehension which disappeared only when she was allowed to get into her sister's bed.

In August 1919, the patient had been sleeping very poorly, frequently going several nights without any sleep at all. She insisted on extreme cleanliness and orderliness in everything she did. During the past year she has frequently washed her hands some twenty to thirty times a day, usually averaging fifteen times a day. While in the bathroom she locked the door and did not allow her sisters to enter. She refused to dress if her sister was present. Her interests were not diverse, her main one being music (she plays the piano very well). The patient was very religious. She insisted on going to church several times on Sunday, and since August 1918 she wished to go to church every morning before going to work, but was kept from doing this by her sister.

Family History—Negative for nervous disorders. One brother died of tuberculosis; one brother and one sister died of heart trouble, following an attack of rheumatism.

Mental Examination. The patient on admission exhibited gross negativism and mutism, catalepsy and characteristic spring resistance. She was very resistive, uncommunicative and unresponsive. She remained in bed absolutely rigid, taking but casual interest in her surroundings.

Physical Examination. There was malnutrition and a diffuse acneform eruption over the face and back. Saliva was drooling and a mild grade of stomatitis was present. There were several decubitus ulcers. She showed extreme rigidity characterized by marked hypertonicity of all the muscle groups. The patient on admission had a pulse of 138, temperature 101°, respiration 35. There was a general

overactivity of all the deep reflexes, and on several occasions she showed ankle clonus on the right side with negative Babinski. There was a coarse tremor of the extremities present. Right cardiac diameter measures $2\frac{1}{2} \times 9$ cm. No murmurs were heard. Blood pressure 140/80. The lungs were clear throughout. Urine examination revealed a trace of albumen but no acetone or diacetic acid. Hemoglobin 80%. Red blood corpuscles 4,680,000. White blood corpuscles 14,000. Differential Count—P. M. N. 73%, P. M. E. 2%, Lymph. 21%, L. M. 3%, Trans 1%.

Spinal fluid findings all negative

Blood Wassermann negative

Course in the Hospital. During the first two months of her stay in the hospital the patient continued to show complete mutism and negativism with refusal of food. The tendency to spring resistance became more marked, and she showed some evidence of catalepsy. Later she made a few spontaneous utterances, recognized her mother and sisters on visiting day, and sang Bohemian songs for $1\frac{1}{2}$ hours after they had left. At this time she was but mildly resistive to tube feeding and made frequent attempts to speak, judging from the movements of her mouth. On one occasion she stuck out her tongue and allowed the ward physician to prick it. Her stupor was less marked and she gradually became more alert and in better contact with her surroundings. There was a marked improvement in her somatic condition; a clearing up of her stomatitis and a return to normal temperature. She still showed tachycardia of 120. Respiration ranged from 25 to 35. The leukocyte and differential counts were normal.

The patient reacted very favorably to administration of continuous tubs. She continued untidy. Her decubitus ulcers healed slowly. Four months after admission, May 1920, she was discharged improved. She returned to work and apparently was adjusting herself well, but in October

1920 again became upset when, with her two sisters, she lost her position in the factory owing to a strike. After this she developed hallucinations followed by a prolonged stupor with negativism and katatonia. November 7, 1920 she was committed to a state institution. The progress notes from this hospital are as follows:

November 16, 1920. During patient's residence here she has been inaccessible, katatonic, passively resistive, inactive but sleeping sufficiently. She has to be dressed and undressed, bathed, taken to the toilet at fixed intervals and fed. She sits in a fixed attitude with forearms extended in front of her, facial expression masklike and lower extremities stiff. She exhibits *flexibilitas cerea* and does not react to questions. This katatonic condition was more marked some days than others, inasmuch as at times she did not answer at all; at other times mumbling with lips tightly closed in scarcely audible tones. About two weeks ago when her relatives visited her she talked freely and without much constraint, but since then she has been quite inaccessible. She often calls the resident physician "Heavenly Father," and repeats over and over little phrases such as "I want to be good, Heavenly Father; wait a minute, Heavenly Father, I want to be near my Jesus, Heavenly Father," etc. There was no emotional variation.

December 7, 1920. Katatonic, stiff and awkward in her movements, mute for the most part, not eating sufficiently, sleeping well, untidy in habits, tube fed morning and evenings. Weight is 105 lbs.

January 5, 1921. Since the preceding note was made patient has not materially changed except that a week ago she began eating voluntarily and has not been tubed since.

January 13, 1921. Eating and sleeping well, tidy under supervision, has to be assisted in dressing and undressing owing to her katatonic state; talks very little.

February 1, 1921. The patient is eating voluntarily but has to be assisted in dressing and undressing. She will sit in one position for long periods of time unless moved by the nurse. She is mute and quite resistive.

October 9, 1921. The patient was paroled today.

November 9, 1921. The patient was discharged today.

January 25, 1922. Visited by After-care Worker. Mother states that they took her to a private hospital two days after she came home. Physicians there state dementia has advanced.

July 22, 1924. Mother states the patient has been in private institutions excepting for several home visits of a day or two at a time. Social Service Note February 2, 1930. Patient discharged from institution May 30, 1926. Remained at home for 2 years and 4 months. Admitted to State Hospital August 27, 1928, and has remained there up to the present time.

PARANOID SCHIZOPHRENIA

CASE 51 Schizophrenia, paranoid type in a man 39 years. Poorly systematized delusions of persecution with auditory hallucinations and ideas of influence. No insight. Slow deterioration. H. H. Aged 39 yrs. White. Married. Male. Admitted November 19, 1921. Committed December 15, 1921.

Patient sent to the hospital because he had made a scene at the City Hall where he complained that various people in the Detective Bureau were persecuting him.

Onset of Present Illness. About March, 1921, the patient complained of hearing voices talking to him. Patient said that these voices were "razzing him" in English and a man named F was "tutoring him" in German. He averred that two men, McC. and F., led the Detective Bureau to watch his movements continuously. Frequently remarked

that he was under the influence of electric machines which kept "boosting" him up and down. He thought that at times his body was full of electricity. For eight months the voices have been changed, they refer to his wife, frequently call him a "poor simp" because he did not "get wise" to his wife sooner and because he did not know "there was an organization working directly against him." This organization operated through the Detective Bureau according to the patient's statement. In the afternoon of the day of his admission he created a disturbance in City Hall, demanding to see one of the judges in order to get justice and was very threatening. Stated that if he could not get justice here he would go to the Department of Justice in Washington and see the President.

Personal History—Normal birth and development. Born June 14, 1882. Had the usual childhood diseases with no sequelae. No serious accidents or operations. Patient began school at the age of five, got along very well, graduating from High School at the age of 17. After graduation from High School he went to work at architecture and civil engineering. He always held very good positions with good salary since he was considered capable and efficient. His habits were normal as far as could be discovered. Patient was married when he was twenty-three years old and has two children who are now twelve and fourteen years of age. He was always jealous and suspicious of his wife, frequently accusing her of receiving attentions from other men. These difficulties increased until May, 1920 when his wife left him and has since refused to live with him.

General Make-up—The patient was always considered to be a very keen, intelligent but suspicious type of individual. He frequently showed this suspicion in his work by complaining to his fellow associates that his ability was not recognized. He was always distrustful of his superiors and would have been discharged if his work had not been so

efficient His fellow associates considered him a very odd, erratic, peculiar type of individual and by some he was considered a genius

Family History.—Father died at the age of 50 from pneumonia Mother is living and well. She is considered to be a highly nervous woman but has had no definite breakdowns Three brothers and three sisters are living and well No history of any mental disease in the family.

Mental Examination. *General Behavior.*—Patient was very suspicious, keen and alert. His demeanor was self-assertive and he was inclined to be antagonistic and surly He demanded his immediate freedom and was very belligerent towards the physicians who admitted him

Stream of Talk and Activity.—Talk was spontaneous but guarded, irrelevant and incoherent. He uttered neologisms, such as, "People are tutoring me. I must follow the lead People are razzing me." Patient said that this trouble had been going on for many years

Mood and Special Preoccupation—Patient's mood was inadequate Despite the seriousness of his persecutory ideas he did not appear to be much troubled by them Paranoid delusions were prominent and were directed against the two men, McC. and F. of the Detective Bureau, whom he thought had been following him for six to eight months, hounding him from place to place, and continuously on his trail. They have tried to do away with him, have tried to dope him; have set his wife against him, and now that his money is gone, they want to arrest him and place him behind bars for life He stated that he had tried in many ways to avoid these men, that he has gone to New York, Boston, and Baltimore and Washington without being able to get rid of them. They spread various reports about him, particularly about his character and his treatment of his wife, etc. On close questioning the patient stated that this had been going on for the past eight years, but it had



FIG 38 —Physical Brotherhood



FIG 39 —Spiritual Brotherhood
Differs from No 1—the palm of the
rt hand being turned outwards,
fingers grasped in the left hand



FIG 40 —Usually succeeds the posture
not photographed which illustrates
the ten commandments shown
by spreading out the fingers wide and
held away from the body



FIG 41 —Spirit of God Coming In
The hands held in a receptive posture

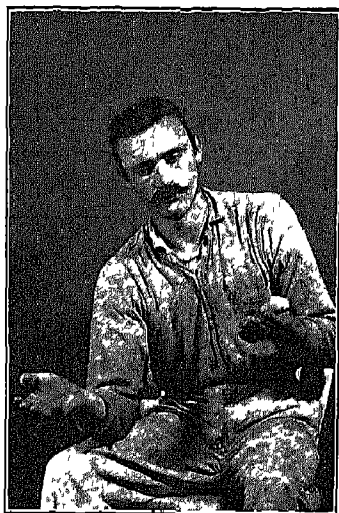


FIG. 42 —Spirit of God going out

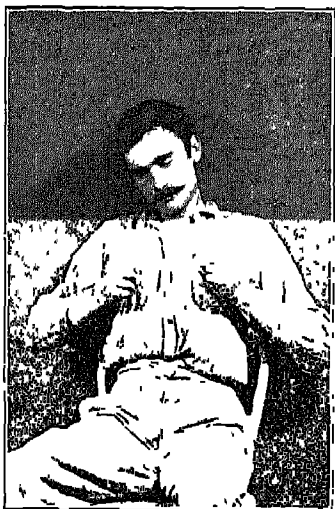


FIG. 43 —We must all pull together
—Unity Arms tense, muscles quivering, patient pulling his arms apart



FIG. 44 —Power Determined by a lateral motion of arms like a driving rod

become especially troublesome eight months ago. Then he felt that things had "come to a head," so he bought a revolver and made plans to protect himself either by taking the law in his hands or by having legal proceedings instituted against these men and the organization that they were leading against him. He could assign no definite reason for his persecution.

Hallucinations—Patient heard voices talking to him. The voices are chiefly those of McC. and F. who "razz him and tutor him." They refer to intimate affairs with his wife, make fun of him in various ways, say that they will get him. The patient denied hallucinations in the visual field.

Ideas of Influence.—Present and prominent. Felt he was under the influence of electric machines, including x-ray machines, induction coils, etc. "Electricity goes through my body."

Sensorium and Intellectual Resources—Patient was oriented for time, place, and person. He had a fair knowledge of current events and his memory was very good for both remote and recent events. His grasp of general information was excellent. He gave a very critical review of political events occurring recently, describing the European situation, etc. Retention was extremely good. Retained eight digits. Gave addresses correctly at the end of five minutes, as well as named objects shown. Calculation was unusually good. Could multiply three digits by three digits correctly. The seven from a hundred test was performed quickly and accurately. Speech and writing were normal. Patient felt that he should have justice, that the courts of the city should help him, if not, he would go to Washington or take the law in his own hands, and defend himself against his persecutors.

Physical Examination. Patient was in excellent physical condition. Height 5' 6" and weight 150 pounds. All systems normal. Blood pressure 125/80. Laboratory

reports including urine, blood chemistry, etc., were normal in every detail.

Course in the Hospital. During the patient's stay in the hospital his mental status showed practically no change. He did not appear to have deteriorated further. He adhered to his delusions of persecution but these delusions varied. At times they were directed against his wife, and her relatives, later against various physicians, and again, against the Detective Bureau. He had absolutely no insight into his mental condition. He talked irrelevantly and incoherently on many occasions. He appeared to be always on his guard in his attitude toward ward patients and visiting relatives with whom he frequently refused to talk. He was committed one month after admission. Since that time he has deteriorated slowly.

DISCUSSION

Paranoid schizophrenia is particularly marked by its late development and the prominence of delusional formation. As this case indicates, the homicidal tendencies may be serious.

Of 3,184 schizophrenics in Massachusetts, 52% were hebephrenic, 25% paranoid, 10% katatonic, 8% simple and 5% unclassified.

Other Clinical Considerations. A few of the interesting and important aspects of schizophrenia are presented in the form of very brief abstracts from our collection of clinical material.

CASE 52. Often there is considerable emotional reaction at the beginning of a schizophrenia, so that it may be mistaken for manic-depressive. A young man, 26 years old, became "sad" and for almost five months he was depressed, filled with self-blame, ideationally retarded and inhibited in a motor sense. Only then, did he become hallucinated, thought that voices were calling him "mastur-

bator", that his semen was gone, that he was drying up, that his eyes were "changed." He declared that he was not fit to associate with normal people, became panicky and cut his neck with a razor. He survived and gradually the depression was replaced by indifference and apathy. Now he is silly, incoherent, physically dilapidated and psychially disintegrated.

CASE 53. **Much may be accomplished in an early case.** A girl of 14, in the second year of High School, was sensitive, preoccupied, day-dreamed continually, thought the teachers were giving her a "raw" deal and that the other girls were talking about her and annoying her. She had entered her first menstrual period at 13, without knowledge or preparation and she hid the napkins, thought she was bleeding to death and was "different from other people."

Treatment in this case consisted of a frank discussion of the problem presented by the patient. She was given the facts regarding her preoccupations and made to understand that she was not different from others. The development of new hobbies and interests such as tennis, basket ball, and dancing led to better contact with her schoolmates and overcame day-dreaming tendencies and ideas of reference. Three years later she showed an excellent adjustment.

CASE 54. A boy, 17 years old and in High School was sent to us by his teacher with this statement "This boy seems entirely absorbed in his own problems. He is now a total failure in school, whereas previously, he used to lead his class. He is silly, peculiar, and is rapidly giving up all of his former interests in school work as well as athletics."

In the clinic the boy revealed that he was greatly worried about masturbation; that he had read that it caused nervousness and insanity, and that he had given \$10.00 to a quack for pills to cure masturbation. He was very introspective, had ideas of reference and influence and believed that his eyes were beginning to change

The treatment consisted of giving him the simple facts of the phenomena of masturbation and the physiology of the reproductive apparatus. He became desensitized. Reports from the school show that he has made an excellent adjustment and has sublimated his sex difficulties in vigorous athletics. After several years he is well. There was in this case a definite schizophrenic danger which had already led to a withdrawal from contact with reality.

CASE 55 Toxicity apparently may precipitate schizophrenia. A young woman, 25 years old, a stenographer, was in her personality very quiet, serious minded, ambitious and a hard worker. Following an attack of quinsy, the patient became so apathetic and listless that she gave up her position three days after returning to work. She lost interest in her personal appearance, and would sit in one place for hours, rocking her body back and forth and making motions with her arms. She would not eat and became very weak. She talked in a vague and disconnected fashion about "seeing taxicabs", "trusting the children," etc. She had one "weak spell" in which she nearly fainted, complained of everything getting black and sat with her eyes shut. She frequently smiled and laughed to herself in a silly way, and had periods of sudden antagonism when she was violent and destructive. She showed no interest in anything about her home and all measures to help her were unavailing. In the hospital following operation she was apathetic, untidy, hallucinated and katatonic. In two months she began to improve and soon made a good adjustment.

CASE 56 The precipitating factor may be psychic. A reaction somewhat similar to the above occurred in a quiet, studious girl, 23 years old following a disappointment in love. There was, also, paranoid projection, a neighbor's voice accused her of masturbation, this was repeated by a child's voice, voices accused her of not going to Mass, on

the street people watched her and called her "crazy", detectives followed her. A penetration of some of her day-dreams revealed an autistic love affair with her former sweetheart, in which she "received gifts and frequent letters from him." She made only a fair adjustment

VI DIAGNOSIS

Perhaps, the symptomatic markings have been made sufficiently clear so that the percentage of diagnostic accuracy should be fairly high. The chief differential diagnostic difficulty concerns manic-depressive psychosis. Theoretically and on paper the distinction is simple but practically and in actual practice, it may for a long time be surprisingly difficult. In given cases, the diagnostic day is only saved by a careful review of the patient's life history in longitudinal section. Here one may utilize advantageously an evaluation of the pre-psychotic personality. In the manic-depressive the predominance of social, extroverted and syntonetic qualities and in the schizophrenic, the prominence of asocial, introverted and schizoid traits.

From the vantage point of the psychosis itself, the best help is to be attained from a careful estimate of the affective state. If depression exists, it is in manic-depressive evidenced by a definite subjective feeling of sadness and, in general, is of such a type that the detached observer would from the physical and verbal expressions of the patient readily label it as melancholia. In schizophrenia, on the other hand, no strong subjective feeling can be detected and neither the motor expression movements of the patient nor the quality of his verbal explanations stamp the depression as genuine and of the type that is ordinarily experienced in miniature in normal mental life. In other words, there is in the schizophrenic, a discrepancy between his mood and his thoughts.

The excitement of the manic-depressive is in fairly close contact with the environment, there is in it a connectivity and sequence of thought producing so-called "flight of ideas", whatever the prevailing mood may be, it is genuine as judged by the usual criteria and finally, it has a rather

MAIN DIFFERENTIAL DIAGNOSIS OF DEMENTIA PRECOX AND MANIC
DEPRESSIVE PSYCHOSES

Findings in mental examination	Dementia precox	Manic reaction	Depressive reaction
1 General behavior and activity	Odd, incongruous, silliness, irrelevance and incoherence of stream of thought	Pressure of talk and activity Flight of ideas and distractability. Over-productivity	Slowness of thought and activity Depressed facies Underproductivity
2 Affective disorder present	Loss of affect of inadequate affect	A frank elation or quick oscillations	A frank depression
3 Trend reactions	Delusions of various types, ideas of reference, ideas of influence, paranoid ideas. Hallucinations usually prominent	Expansive ideas to fit in with elation No hallucinations	Self-condemnation and self-recrimination to fit in with depressive affect Hallucinations rare
4 Sensorium changes	Sensorium generally clear Insight usually absent	Clear Insight may be present	Clear Insight often present

prolonged course. In schizophrenia, the katatonic and other excitements seemingly are not related to the environment nor do they derive stimulus from the surroundings. The thoughts expressed in the excitement seem like discrete islets not connected with each other and an analysis of the

productions would indicate poverty rather than profusion of thought. The emotional expressions would have to be labelled inadequate and contradictory and the excitements are short lived and often appear and disappear many times in the course of the psychosis. Fairly frequently they represent emergences from stupors

The student may be given some additional help from the appended table.

VII PROGNOSIS

Scientific forecasting or prognosis is a sadly neglected aspect of psychiatry. Too often it is only an echo of diagnosis. If this is so in schizophrenia much that is important and, perhaps, particularly, valuable sources of information and needed treatment concepts will be lost. An opinion as to outcome is only permissible after a thorough review, not only of the psychosis itself, but of the whole life history of the individual, an extremely careful weighing of the potential assets of the patient and an estimate of the chances of recasting his environment. It is very difficult to arrive at any satisfactory conclusions concerning the recovery rate and by various authors it is placed from zero to such fancifully high figures as 80%. In the latter, it is obvious that many reactions that are not really schizophrenic have been included. The criteria of recovery occasions further difficulty since the schizophrenic process may be arrested at various levels below the complete recovery level, descending from partial social readjustments to mere cessation of certain symptoms permitting life in the home instead of in a mental hospital. The various psycho-analytic schools measure the malignancy by the depth of the regression of the patient to infantile and intra-uterine and even phylogenetically primitive stages of evolution. Katatonia is commonly believed to be more favorable in outcome than the other types.

One of us made an intensive study of a group of patients who unquestionably recovered from schizophrenia. The recoveries have all endured more than five years and no psychotic episodes that might suggest an original manic-depressive instead of a schizophrenia have appeared. The recovery rate was somewhat higher in the Russian Jews.

It is important to differentiate between what might be termed a constitutional "shut-in" type and one which is wholly or in part the product of environment. The former develops in spite of normal or at least average surroundings; the latter is a feasible defense against definitely inimical reality. Other things being equal, the first argues for an unfavorable prognosis, the second does not necessarily weigh against recovery. Such a differentiation was possible in two of the patients.

The first patient was markedly seclusive in her own family circle, but on analysis this seclusiveness resolved itself into a not illogical tendency to escape hopeless conditions. Toward those who stood outside the family circle and particularly those who had superior educational assets, she was not seclusive. On the contrary she was demonstrative and formed passionate attachments for them. Presumably the patient was the highest product of a very diseased family stock and from childhood sought to raise herself above its low and sordid plane. The personal weapons which were unconsciously forged to accomplish this purpose were ambition, a love of the dramatic and a childlike imitation of those who were admired. Thus, all in all the personality, particularly the seclusiveness, was a logical defense against an inimical environment. During the psychosis, which was quite schizophrenic, there was the persistent wish to cut herself off from her family.

In the second patient there was likewise seclusiveness, and again it was clearly a refuge from the hard facts of the patient's life. The patient, at seventeen years of age,

lived on a remote farm, existence was rigid and monotonous actual necessities were denied and there was that type of stern religion which regards beauty as sinful. Even the mode of dress was prescribed and a drab and shapeless garb had to be worn. Defective socialization reached a high degree and during a rather typical schizophrenic psychosis this withdrawal was pronounced. However, an excellent recovery was obtained. The prepsychotic mental isolation should have been regarded as a logical reaction, the only available protection against an unnatural environment. In one sense the patient's withdrawal was an effort, not so much to seek relief in unreality as to hold on to the worthwhile things of reality.

In three patients who recovered from what seemed to be clear-cut katatonic schizophrenic reactions, there was a dispositional character best described as stubbornness. It included a marked opposition to the acceptance of contrary opinions and undesirable situations. In one, a physical reaction pattern had become ingrained and "even as a child she would stiffen herself, open her mouth and roll her eyes about if opposed in any way." In another it was the result of a spoiling process in an only child and anger appeared from "the slightest opposition or interference." The third, in childhood, was "markedly stubborn" and "hard to conquer." It is noteworthy that each of these individuals when confronted with concrete difficulties (illegitimate pregnancies in two instances and a serious conflict with the authority of a school board in the third) became psychotic and furthermore manifested blind katatonic outbreaks against the environment. That this "katatonia" may have been merely the pathological accentuation of prepsychotic "make-up" is worth consideration in prognosis.

In three patients, the personality contained a tendency toward mysticism. In the first an unusually long retention of the "pretend stage" of childhood in the early teens

developed into a concentrated interest in Hindu occultism. The second was a firm believer in telepathy, and the third was grossly superstitious and readily influenced. In the psychoses which occurred, the somewhat vague paranoid delusional formation was of the kind which seems to draw its substance from a background of unreality. More favorable prognosis is implied in the supposition that the precox-like symptoms were merely the outgrowth of personal habits of belief and not due to a disintegration of self.

In three patients prepsychotic sensitiveness and paranoid tendencies had existed. These were increased by complicating conditions, and in one case an unsatisfactory marriage sharpened the distrust. The psychoses were all paranoid with much to indicate splitting. However, there were complete recoveries. The important prognostic point is that after all no deterioration of personality was involved.

The percentage of precipitating situations that could be fairly regarded as serious and significant was high in the group of recovered patients.

We believe that an abrupt, stormy onset is a relatively favorable prognostic sign and probably represents the struggle of the personality against the acceptance of the psychotic material. This view is concurred in by Barrett, Sullivan and others. At the onset, too, inhibition is enormously diminished and the patient is very susceptible to outside influences, which may from time to time later in the psychosis impart a false appearance of malignancy. Thus in a woman 36 years old, who made an excellent recovery, the reading of lurid detective stories at the onset imparted a strong paranoid trend to the psychosis and determined a very bizarre expression; "violet ray," "poisoned food," "throwing gas," "dictaphones," "germs," "poisoned daggers shot into the brain," etc.

Finally, it is prognostically helpful to view the patient from the standpoint of his environment and to attempt to

form some judgment as to the chances of obtaining a fairly adequate satisfaction from reality. In schizophrenia there are only two stages. First, the stage of conflict which is essentially the struggle against submergence by unreality. Then, if recovery does not occur, there is, second, the final stage of pathological adjustment or unreality. Clinically it is deterioration. Sometime during the conflict, it is reasonable to assume that the chances offered by reality are unconsciously weighed against the surcease of the Nirvana of unreality. The question arises as to how far these promises are to be realized and to what degree the psychotic hopes which held back chronicity were fulfilled. It is possible to deal only with the fairly obvious, which must be a very small fraction of the entire picture.

In eight patients who recovered from typical and severe schizophrenic reactions, it seems important to note the following. A Jewess, 25 years old was badly pitted by small-pox scars. Before the onset of the psychosis, she often remarked "I'll never get a fellow with a face like this." After recovery she married happily and now has two children. An unmarried woman, 30 years old at the time of the psychosis, completed her schooling at 17, and thereafter lived on a farm and assisted her mother with the housework. The farm was remote from even a small city, life was rigid and monotonous, the father denied the family actual necessities and there was a spirit of that type of stern, unbending religion which reveres ugliness as a virtue. For diversion the patient read religious books and occasionally played the piano. Reared in such an atmosphere, it was not unnatural that she should be timid and shy and liable to "blue spells." As a matter of fact, the defect in socialization reached a high degree, so that at twenty she was typically "shut-in" and remained seclusive for eight years. Soon after recovery it was evident that she had broken away from the narrow confines of her former life and that there were promising

efforts in the direction of socialization. She had taken a correspondence course in nursing and utilized her "training" in the rural community. There had been frequent trips to the nearest city and longer visits to Atlantic City, Philadelphia, and Niagara Falls. A single woman 35 years old had lived in a destructive family environment. The mother had a psychosis, principally marked by a fear-paranoid reaction centering on the patient's father. This paranoid pattern was duplicated by the patient in her own psychosis. Soon after her recovery, the father of the patient died. She is now financially independent and has a home of her own.

Occasionally the seeming hopelessness of environment may make an offer from reality the more attractive.

CASE 57 E. M., a single girl, nineteen years old, a pupil nurse by occupation and born in America of native parentage. The family tree was unsound, root and branch. The paternal grandfather was a notorious "jail-bird", the father an epileptic and ne'er-do-well. The mother, maternal uncle and an older sister are in a State Hospital with dementia precox. A younger sister is a psychopathic case, unmoral and a drug habitue. Another sister is in an orphanage.

If personality is to be regarded as the end-result of the reaction between the individual and the environment, then it is important to appreciate the setting in which this patient developed. During her early childhood the father deserted the family several times. The patient never saw him after she had reached her ninth year. Soon after, the mother was committed to the Trenton State Hospital and the remnants of the family were separated and scattered. The particular unit in whom the interest centres became a public charge and had eight placements in as many private homes during a period of six years. She always complained that she did not have sufficient opportunity to obtain an education. At sixteen she ran away to New York and finally was

arrested for vagrancy. In the schizophrenia there were frequent episodes of spontaneous screaming, destructiveness and violent resistiveness. Often the patient was mute. Exhibitionism occurred. As the symptoms advanced, there was objective evidence of regression to an infantile level. The patient acted, spoke and dressed like a child, said "children do this," addressed the physician as "mamma" or "muzzer," and was untidy. The ideation was either disconnected or expressed a dissolution of integrity in such remarks as, "Part of myself is lost," "I am drifting away from myself." In all likelihood the sensorium was not disturbed. Hallucinations were present only once or twice and then the voices repeated her thoughts. The affect seemed altogether inappropriate. There was much apparent silliness, sometimes laughing and crying; and less often cheerfulness, which, however, never amounted to exhilaration. Rarely there was unconvincing depression; once a carefully written and worded request for euthanasia. Always there was a wide separation between the few affective manifestations and the psychotic content.

After a course of 15 months recovery ensued, the patient completed a nursing course and is now successful and happy as an office nurse.

CASE 58. In a well born girl of nineteen, the schizophrenia was precipitated by a secret, illegitimate pregnancy and a bungled abortion. The psychosis began abruptly and lasted seven months. It was marked by boisterousness, talkativeness, laughing and crying spells. There was speech "confusion" and sentences were left unfinished. Visual and auditory hallucinations were prominent, but the outstanding symptoms were episodes of behavior strongly suggestive of katatonia,—violence, screaming, profanity, refusal of food and medicine and apparently unmotivated attacks on her nurse. The psychosis had interrupted an engagement to marry. Following recovery, the engagement

was resumed and now the patient is "happily married and has three children" In another instance, in a young girl, who was very quiet and retiring and never had any beaux, the psychosis was apparently precipitated by an offer of marriage from the only male admirer she had ever had After a four months katatonic psychosis, she recovered and is now happily married and, also, has three children

CASE 59 An unmarried girl, nineteen years old had a five months' psychotic reaction with prominent delusional-hallucinatory trends There was "dope" in the food, the medicine and the bath-water were poisoned, she could see "black specks" in the egg-nog, had been lured into the house and doped; electricity was both heard and felt, and it "drew" her head, there were "powers" from the "underworld", shadows were noted in the darkness; she noticed movements of her own hands and complained that "everybody moved everybody else's hand," or again, "this place is hell" "Too many signals—when you moved in that way he passed something to you—am I right or am I wrong?" The psychosis probably was precipitated by a conflict between a religious "vocation" (she had fixed the date to enter a convent) and an opportunity to marry. After recovery, the patient married a "fine young man and now has a nice home and a baby"

CASE 60 A girl, eighteen years old, had a psychosis lasting ten months The principal phenomena were mutism and an apparent suspension of intellectual functioning, motor inertia interrupted by episodes of pitching from one side of the bed to the other or struggling at tube-feeding, rigidity and negativism, or a reversal to catalepsy, anesthesia to needle-thrusts, infrequent winking but retained corneal response, uncontrolled voiding and defecation, attitudes of fetal-like flexion and affectlessness, although occasionally a few tears appeared in the eyes. There was complete recovery. The psychosis was precipitated by an unsatisfactory engagement to marry a divorced man. There had

been frequent sex intercourse and a fear of pregnancy, sharpened by the cessation of the menses. Two years after recovery the patient married another man.

In these few scattered notes there is the suggestion of what we believe to be a highly important prognostic factor,—the chances of satisfaction by reality. Somewhere in the course of the psychosis there must be in some way and at some time, a decision for or against the possibilities and the chances offered by reality. Unfortunately such factors cannot be readily determined and even when recognized they cannot be weighed. There is, nevertheless, from time to time, the opportunity to utilize such factors in order to strengthen the chances for recovery.

VIII MODIFIABILITY AND ADJUSTMENT

The discussion of treatment is opened by the presentation of a skeleton outline of treatment procedures.

Treatment Procedures.

1. *Preventive Measures*

Studies of childhood psychopathology. Mental hygiene in school. Preparation for problems of adolescence, of emancipation from home, sex hygiene, etc. Organized, state wide neuropsychiatric examinations of school children showing behavior difficulties and of all school failures with prompt treatment, as well as out patient studies of prepsychotic individuals and of so-called normal individuals.

2. *Safeguarding Therapy*

Institutional care of patients. Well equipped observation psychopathic wards are therefore needed in all our general hospitals. Special psychopathic hospital care—Clinic treatment.

3. *General Internal Medicine.*

Careful elimination. Careful dietetic and tonic routine, endocrine therapy. Removal of infection and proper treatment of accompanying disease.

4 *Reconstruction Therapy—Establishment of Rapport.*

Frank discussion of patient's problems and assets (personality resources), and the situation he has to meet. Establishment of an adequate personality in keeping with resources. Establishment of reconstructive interests of diverse types, of insight and understanding.

5 Occupational therapy to produce action is very advisable. Colonization of all institutional cases where it is possible for deteriorated cases to become self-supporting. Follow-up of all discharged patients for a number of years in order to arrive at definite statistical facts regarding adjustment. Placement in private boarding homes.

6 Careful psychiatric social service follow-up and vocational supervision may reclaim many of these individuals after they are discharged back to the community.

7 *Treatment of Symptoms*

Negativistic states and stupor. General hygiene and nursing care, ventilation, bathing, artificial feeding, change of scene, etc. Excitement. Adequate supervision and observation. Continuous baths and other types of sedative therapy such as packs.

Prophylaxis. Schizophrenia, once it begins, becomes all too early and all too soon a fixed and chronic psychotic maladaptation and, it is therefore highly important that the prophylactic opportunities be intensively cultivated. Such opportunities occur strikingly during childhood and, less emphatically but still definitely enough in early adult life. So far, no satisfactory pharmacological, endocrine or other physical approach has been derived from pathology and, the better chance is to be found in the possibilities of modifying the personality, variously described as "intro-

verted," "seclusive," "schizoid," etc., upon which schizophrenia is so readily engrafted. The prophylactic objective should be to strive for a more even balance between individual and environment and in some degree "exteriorize" or socialize him.

For the child, the home should be first and foremost a place in which it may find an atmosphere of harmony and happiness. There should be neither unduly harsh discipline nor its opposite, spoiling. Competition between brothers and sisters, in the home for the favor of the parents, particularly when spurred on by "playing favorites" by the parents is pernicious. The attempt to stimulate a child by too constantly pointing out the assets in brothers or sisters usually results in the production of inferiority feelings and is a hazardous process. There should be liberal doses of explanation to the child in the parent-child relationship and particularly should punishment contain a generous leaven of explanation. Companionship with other children of both sexes, outdoors, athletics, and all reasonable socializing influences should be encouraged. It should be made easy for the child to bring his playmates into the home and there should be no risk that things would be seen or heard there that would shame him before other children. Sex and particularly the concrete facts of sex are always difficult for the potential schizophrenic and "therefore effort should be made to prevent phantasy by supplying competent knowledge of sex hygiene, and to discourage rumination by always discussing such matters without emotion and with only a modicum of moralization." Sex instruction should be begun comparatively early in childhood but, naturally in a degree and in detail suitable to the age of the child.

Children have toward their parents an attitude of idealistic-identification. Unconsciously, they supplement their own weakness by identifying themselves in the parents. Here

is a strong emotional bond, leading to indiscriminate imitation and containing sources of danger, particularly for the introverted child. The goal of any real psychology of childhood is to obtain for the child a true psychological maturity. If this is not accomplished, the child is destined for a life of slavish imitation of those who become the emotional surrogates for his parents. The parent-child bond must be loosened not too abruptly but nevertheless, surely, and independence of thought and action must be wisely and continuously encouraged.

Introverted children read a great deal and while their reading should not be too rigidly ordered yet, it should be directed toward types of literature that are not too luridly and completely phantastic. Religion supplies an important need and it should be a source of beauty and inspiration but social and practical too, and above all not grimly fear producing.

"The schooling of these children should be carefully scanned and means found to check the tendency to study abstruse and obscure subjects. Rather should socializing subjects be emphasized, that youth may keep close to facts and maintain friendly personal contacts. Primacy in competition of intellects is a goal to be disparaged . . . the choice and any change of occupation should be given consideration by those interested in order to prevent the development of illness, and any inclination to choose a vocation that merely promises compensation for ill-recognized inferiority feelings should be skillfully handled. The vocation selected should be certainly within the capacity of the individual and of a type to maintain his social life on as broad a scale as may be within his power." (Hamilton)

These are but a few of the conceptions that may be advantageously utilized in the attempt to prevent the development of schizophrenia not only in children but even

later in life in those ingrowing personalities who are in danger of this chronic maladjustment.

Treatment of the Psychosis. Obviously the earlier the actual schizophrenia is treated correctly, the better the

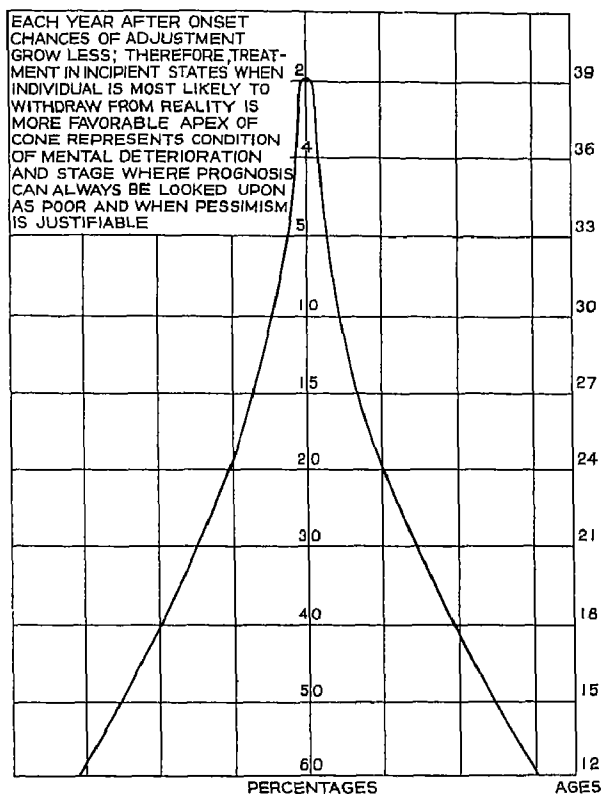


FIG 45

chance of adjustment. The accompanying chart graphically illustrates this point

In combating schizophrenia the psychiatrist needs the inspiration of a workable conception. We know of no better conception than the psychobiological interpretation

of Meyer. It views the patient critically in the long section of his life history and particularly surveys the series of maladaptations that preceded the final schizophrenic one. It then asks such pertinent and therapeutically stimulating questions as these. What are the resources of the patient? What has he to react with? What is the situation he is called on to meet? Can we modify his resources in order to enable him better to meet the situation, or can we modify the situation so he may better meet it with his resources? Etc. Finally, the psychobiological idea does not court exclusively any single therapeutic mistress and it leaves open the door of every reasonable treatment plan.

Psychotherapy. There are many kinds of psychotherapy and, we believe the more individualistic the approach the better. Generally speaking the psychiatrist will find his patient living on the plane of unreality or dangerously close to it. Between this and the reality which is possible for the patient and which varies for each patient there is a gulf which must be bridged if adjustment is to be secured. The steps between phantasy and reality cannot be forced too abruptly but must be taken, psychologically speaking, slowly and gradually. The building up of confidence, persuasion, suggestion, particularly the indirect suggestion that skillfully and not too obviously puts forth the claims of reality, are helpful. All this implies some degree of accessibility on the part of the patient but, so is this a requisite for any form of psychotherapy and in the bulk of early cases some degree of accessibility is at hand. Once a bit of insight is secured and there is some beginning of the process of viewing the symptoms objectively, then this advantage should be pressed and expanded.

There is much difference of opinion concerning that specialized form of psychotherapy known as psychoanalysis. Some authorities feel that dangerous panics result from the inability of the patient to face the probably incestuous

significance of the phantasies, and that the physician becomes a part of the phantasy. Others think that this is merely a difficult place in the treatment plan and that it can be won through. It is obvious that in any event psychoanalysis must be modified if it is to be used in the treatment of the schizophrenic.

From the standpoint of formal psychoanalysis, Zilboorg writes "The psychoanalytical method, as is known, requires a strictly passive attitude on the part of the investigator, interpretations and explanations being given to the patient only when the patient is affectively ready, i.e., when the patient through the accumulation or display of the affect which is related to this or that trend, is about ready to gain insight almost entirely without explanations or interpretations. This method, if properly applied, thus excludes any intellectualization—the chief enemy of insight, and in schizophrenia the most dangerous enemy, because the schizophrenic is an intellectualist par excellence, he could, would and does indulge in most complex intellectual formulations in order to avoid the necessity of emotional participation in reality. Another advantage derived from the psychoanalytical method is that if a patient is permitted to talk and 'ramble along' freely without interference, he sooner or later, but quite invariably stumbles upon 'resistances,' i.e., upon psychological elements which are charged with a great deal of affect. It is possible to observe quite clearly and even to estimate the depth of the affect long before it comes to full expression. The patient's voice, minor and major gesticulations, facies, sudden silences, evasions, all serve as excellent indicators and signs of warning.

The method is called 'affective re-integration'. . . One fact, however, appears beyond doubt. The analytical method in its classical form, preceded by a preliminary and rather long period of analysis of the 'reality principle,' mobilizes the masses of affective energies which other-

wise remain shut-in and prevent a proper contact with reality

The significance of this cannot be overlooked. It throws a somewhat different light on the phenomenon of Schizoidie. It is not impossible that what is called schizoid personality is actually not an established constitutional form, but a complex resultant, a derivative of certain dispositions only. Under circumstances of great stress, such as an unusually strict, repressive, parental ideal, combined with very early traumatic stimulations of sexual life, a conflict ensues which favors the withdrawal of the affect from active contact with reality—and thus occurs the overemphasis of the schizoid disposition.

The affect can be mobilized and set to expression. If the mobilization takes place after reality and phantasy have been differentiated by the patient, the process of affective re-integration may go to its completion."

Irrespective of the therapeutic value of "affective re-integration" it is obvious that in its present form it can scarcely have any extensive application, since in the treatment of one patient, there were 450 one hour interviews. If it has any value at all it would be from the angle of psychopathological research.

Drug Therapy. Naturally in the treatment of schizophrenia, in which the patient may be mentally sick for many years and often for the remainder of his life span, the need for drug therapy of various kinds to treat intercurrent conditions will arise. In the psychosis itself, the appearance of excitements, insomnia, etc., may call for the use of sedatives. There is a wide range of selection, veronal, paraldehyde, hyoscine, the barbituric acid group particularly sodium amytal, etc. Sodium amytal has been utilized especially in katatonia in doses of 10 to 15 grains intravenously, often along with oral, intramuscular and rectal administration, in the production of narcosis. Lorenz states

one of the theories as follows.—“That an individual develops a psychosis following normal mental life. Assuming that this psychosis in the case of katatonia is at a much lower level of mental existence than the normal, and may even be a subjugation to the more primitive fetal existence—yet it is not as deep as real unconsciousness. If at this point one precipitates a katatonic patient into unconsciousness by the use of a narcotic or anesthetic agent one pierces through this level of katatonic stupor and dislodges the katatonic mechanism.

“Upon the return from unconsciousness induced by drug the katatonic patient mentally approaches the so-called normal. After he has regained this normal mental life, the various factors and stimuli responsible for his original psychosis become effective; and after a period of hours he reverts back to this more primitive level which is apparently a more desirable refuge.” Nevertheless, I have repeatedly observed considerable improvement and in one instance, at least, a satisfactory adjustment following the induction of rather prolonged narcosis by my assistant, Dr. Harold Palmer. Lundvall, Donath and Kieholz report good results with sodium nucleinate, Ishida and Holmes with sodium chloride infusions, Ludlum and Corson-White with endocrine preparations. Various investigators have reported failures with endocrine preparations, with somniferin, with trional, with cocaine hydrochloride, and with the metallic salts. Surgical procedures do not offer very much. The enthusiastic reports of Cotton as to the benefits accruing from the removal of focal infection in teeth, tonsils, sinuses, prostate, female pelvis, intestinal tract, etc., have not been substantiated. It is, however, good medical and psychiatric judgment to clear up when it is feasible such *real* focal infection as is present. The results of the surgical induction of an aseptic meningitis have been disappointing. Attention to the gastrointestinal tract from the standpoint of its proper

functioning and the reduction of the number of putrefactive organisms by the employment of b Acidophilus milk should be followed In general, all proper hygiene measures, psychotherapy, hydrotherapy, pyrotherapy, exercise, etc are indicated in the intelligent treatment of schizophrenic patients

Pharmacological shock therapy in some form is used in the majority of hospitals caring for schizophrenic patients The most satisfactory results from the standpoint of well-sustained improvement is obtained with insulin or hypoglycemic shock as suggested by Sakel In our hands the results have been essentially the same as those of Ross and his co-workers whose statistics are here presented in part

CONDITION OF PATIENTS WITH DEMENTIA PRÆCOX AT THE TERMINATION OF TREATMENT, IN PER CENT, ACCORDING TO THE TYPE OF TREATMENT

	Total	Recovered	Much improved	Improved	Unimproved	Died
Insulin	100 0	11 1	26 5	26 0	35 2	1 1
Metrazol	100 0	1 6	9 9	24 5	63 5	0 5
Control group	100 0	3 5	11 2	7 4	73 3	4 6

In our experience the method is of greatest value in rendering uncooperative, delusional patients accessible for detailed psychotherapeutic procedures In many instances patients who are mute, preoccupied, or antagonistic become cooperative, participate in ward activities and become interested in reaching an understanding of their reaction and in forming adequate plans for the future. The technique of insulin shock therapy should be thoroughly mastered in some institution using this type of treatment before it is undertaken

The treatment is arduous and dangerous in unskilled hands It is not suited to office or home administration and should be given only in well-equipped, modern hospitals

The treatment should be administered by a central insulin service or department within the hospital. The patients should have a complete physical check including such laboratory procedures as electrocardiogram, chest x-ray and complete blood chemistry studies. Persons showing evidence of metabolic disturbance, pulmonary infection or myocardial damage should be rejected for this form of therapy. In addition to the careful routine history and mental status examination the Rorschach test, association motor studies, and certain of the thinking disorder tests are indicated. All of these examinations should be repeated during the course of the treatment and following its completion as they offer much information as to the nature and quality of the remission obtained. Harris and Horowitz have used a pre-insulin sodium amytal interview and find it of prognostic value, thus making for a better selection of patients for the insulin group. We have not used it in just this manner, but find the method of value in getting detailed examinations upon patients who fail to cooperate to detailed testing in the pre-treatment period.

The administration of the shock itself is relatively simple in trained hands.

1. Treatments are administered daily excepting one rest day each week. On this day insulin units 15 is routinely given.

2. The evenings before treatment patients are given a light supper at 5:30 P M. and no food until after the shock period the following day.

3. "Old" or ordinary insulin is given with an initial intramuscular dose of 15 units. The dose is increased 10 units per day until the patient reaches the stage of somnolence, profuse perspiration or muscular twitchings. The dosage is then increased only 5 units daily until the deep shock phase is attained. Protamin zinc insulin is unsatisfactory for these treatments.

4. In the deep shock phase the dosage remains constant unless the clinical course of the shock indicates an increase or decrease in the dosage

The depth of shock bears little relation to the dosage of insulin in a series of cases, persons showing varying degrees of sensitivity to the medication

In any individual case the depth of shock is roughly proportional to the insulin dose, but the total dose, as stated above, varies greatly from one person to another

The depth of shock can be judged and controlled only by the clinical findings. The signs of shock are as follows

1. *Pre-shock Phase*—Patient somnolent. Can be aroused. In later stage of this phase may show sweating or mild myoclonic twitchings. In the early phases of this stage patients tend to rouse spontaneously after 30–60 minutes of somnolence. They may be rather confused. Termination by allowing patient to drink 50% sugar solution until he ingests 2 grams of sugar per unit of insulin dosage

2. *Shock Phase*—In this phase the majority of patients show “wet shock.” Perspiration is profuse, pulse rapid and thready, temperature drops, heart sounds mushy, blood pressure 80–90 over 60–70, skin pale, wet and cold, respirations deep and stertorous. There is usually profuse salivation with drooling and patients should be restrained in a sitting position with neck flexed slightly forward to prevent aspiration of the saliva. In this stage patients are in deep coma, the tendon reflexes are hyperactive, ankle and patellar clonus are present, corneal reflex abolished, cough reflex usually absent and pathological toe and thumb signs are elicited. After approximately $2\frac{1}{2}$ hours the perspiration decreases and the skin becomes dry. This is the usual time of termination. The patient is given 2 grams of sugar per unit of insulin dosage as a 50% sugar solution administered by means of a stomach tube inserted through the nose. Aspiration of gastric contents by a bulb syringe hastens the

absorption of the sugar solution and assures the physician that the tube is actually within the stomach. Certain patients fail to perspire and are said to be in "dry shock." The signs are essentially the same as those listed above excepting the perspiration, and the salivation is often less marked. In this type of reaction many persons show myoclonic twitchings and in some instances a typical tonic-clonic convulsion. It is our practice to terminate the particular shock session after a convulsion, but the series of treatments is continued uninterrupted. In our experience patients have fewer complications if fluids and sodium chloride are forced between treatments to replace the loss through perspiration during the shock phase. It is believed that this shock phase is essential for therapeutic results.

3 *Complications* are infrequent in properly conducted departments. Convulsions may occur in any shock case at any time. They are usually self limited and the shock may be terminated by the usual method after they subside. If they persist the treatment should be terminated by intravenous glucose in 50% solution. Cardiac or respiratory collapse may occur but are infrequent. Administration of 50% glucose I V, epinephrin 3-6 minimums I V and oxygen inhalations usually restore these functions in short order. The most serious complication is prolonged or persistent coma. If patients fail to respond within 30 minutes after the nasal gavage they should receive intravenous glucose in 50% solution. If this fails to bring about a prompt reaction it is our practice to institute venoclysis of 1000 c.c. of 10% glucose in Ringer's solution. If the patient shows any tendency to hyperpyrexia 50 c.c. of 4% sodium chloride solution is also administered. Continued coma or any signs of muscular twitchings are indications for spinal drainage. To date such treatment has brought about a response within 1-12 hours in our experience, but deaths have been reported from this complication.

Complications such as aspiration pneumonia, pulmonary edema are usually avoided by careful nursing care during the shock phase

The shock treatment is usually continued 40-70 days depending on the clinical progress of the patient. Daily progress notes by both physician and nurse are indispensable in the management of these individuals

Termination of the series is by reduction of the insulin dosage over a period of 7-10 days

An important phase of the treatment of these patients is an energetic regime of occupational therapy, ward responsibility, hydrotherapy, and daily therapeutic interviews as outlined elsewhere

As previously stated, in our experience insulin serves only as a means of rendering a patient amenable to psychotherapy and if this important phase is omitted, relapse occurs in a disappointingly large number of cases

Further details of the technique are described in the literature, but this information should, in all instances, be supplemented by practical experience with the method

Metrazol, picrotoxin, nitrogen inhalations, coriamyrtin and other convulsant drugs have also been used as agents for pharmacologic shock. In the schizophrenias the results have been disappointing, but the convulsant methods are of definite benefit in the affective disorders

In spite of the numerous theories advanced to explain the benefits derived from shock therapy the treatments remains on an empirical basis

General Management. In well established schizophrenia the majority of the patients must be treated in suitable mental hospitals or sanatoria. In this way the medical interests of the patient, his safety, the safety of the community and the welfare and efficiency of the family are best protected and conserved. Under skillful supervision and, if, satisfactory conditions are available, a number

of patients may be cared for in the home, particularly during the "quiet" periods of the psychosis. In some instances farm or ranch life is a good solution. In early or mild cases, the out-patient clinic or private physician can satisfactorily direct the care of the patient in the home. The placement of the patient in suitable homes and the community plan as it is followed at Gheel, Belgium deserves wider recognition. Whether the patient be in hospital or at home, adequate nursing, occupational therapy and proper social service are important. The nurse is the representative of the psychiatrist and, if well trained, she will know how to attempt to check the inroads of phantasy and how to set forth in theory and practice the claims and advantages of reality. The social service worker if not too fanciful is especially valuable in the "follow-up" of adjusted patients and in the instance where patients are kept in the home, she should combat the danger of family disorganization. Occupational therapy is an extremely valuable and a necessary treatment adjunct. It is constantly symbolic of reality rather attractively garbed, and it produces the concrete fruits of work.

Treatment of Special Symptoms. The good nurse will know how necessary it is to see that the patient has sufficient nourishment; that he is tube fed when necessary, that he is kept clean, bathed frequently, changed when he wets or soils himself; that dangerous and sharp objects with which the patient might mutilate himself or others are not available; that the patient has enough exercise, sun-shine and fresh air; that the chronic patient is taught useful habits and some routine, at least, in the care of the bodily functions and, the nurse, too, will minimize and control the physical dilapidation of appearance which is such an early result of the shutting out of reality. The prolonged bath, wet packs, etc. sometimes quiet the excited states. Apathy must be often the target of special measures: walks, calisthenics,

physical culture apparatus, athletic games, indoor games, cards, other diversions, suitable motion pictures, and the theatre, music, dancing, garden work, arts and crafts especially basketry and weaving, etc. are all helpful. Sometimes in stupor visiting by relatives is beneficial.

Total Push Therapy. Myerson and his co-workers have succeeded in instituting an intensive generalized therapeutic regime utilizing physiotherapy in its various forms, ultra-violet irradiation, careful attention to diet and vitamin intake, and an active program of exercise and games. Patients are attractively clothed and groomed. Cooperation in the plan is rewarded with extra privileges and infraction of the rule or lack of interest in the program results in the removal of certain privileges. They report a lowered incidence of chronic deteriorating processes, fewer instances of disturbed episodes and an increased incidence of discharges. The authors do not offer the plan as a cure for schizophrenia but show abundant evidence that the chronic schizophrenic can be taught to live more efficiently and pleasantly with his illness. The authors have utilized a program approximating this and find it of decided therapeutic benefit.

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CHAPTER VIII

PARANOID REACTION TYPES AND PARANOIA

We have begun to realize that it is unwise to attempt to formalize psychiatry too rigidly. More important than narrowly restricted diagnostic disease concepts is the consideration of underlying psychopathologic mechanisms and the reaction of the total personality of the patient. It should be remembered, however, that some of the hard won concepts of clinical psychiatry are quite valuable diagnostically and cannot be discarded, there is for instance the syndrome of the depressed phase of manic depressive, with its emotional depression, psychic slowing and motor retardation, or the converse in mania, the syndrome of clouding of the consciousness, motor restlessness and hallucinosis that is so often indicative of a psychotic reaction to toxicity; the striking dementia picture that so frequently denotes deterioration of the mind, and several others. Among these may be fairly included the paranoid reaction. It occurs so frequently in the psychoses that we should have some idea of its scope and significance.

Literally paranoid means like or resembling paranoia. The clinical conception of paranoia will be developed in the discussion. Paranoia is a rare disease. State hospital statistics in the United States, covering a period of years, show paranoia and the paranoid conditions have been diagnosed in 19 per cent of the cases admitted. Many physicians have never seen a true case of paranoia. In the Philadelphia General Hospital one of us has been willing to make the diagnosis in but three of over five thousand

successive admissions. It occurs more frequently among men than women. Kraepelin states that seventy per cent of the cases observed by him have been men.

In two-thirds of the cases the onset of the disease occurs in the thirties. It is, therefore, mainly a disease of middle life. Cases do occur, however, in the twenties. The course of the disease is always chronic and all psychiatrists agree that it is incurable. Anatomical findings are wanting. All cases of paranoia should be committed since they are always potentially dangerous, however, patients do get along outside for many years and it is extremely probable that many never come to the attention of a psychiatrist.

Several authorities find that in paranoia and paranoid conditions the homosexual element is frequent and that often the elaboration of the delusional structure is on the basis of resultant feelings of inferiority and guilt, repressed and projected upon individuals in the environment. Noyes believes too, that repressed homosexuality is a frequent cause and defines these conditions as "personality reactions characterized by mechanisms of projection or of compensation or by both, not precipitated by toxic or organic states and not accompanied by dilapidation of affect, of conation or associative processes." The kraepelinian definition still retains its descriptive force. "A fixed type of disease due exclusively to internal causes and characterized by persistent systematized delusions, the preservation of clear and orderly thinking and acting and by absence of hallucinations." Briefly, and in this connection, Freud believes "that any serious conflict is liable to cause a regression of the sublimation to the point of fixation. Persons who cannot rise completely out of the stage of narcissism and are thus prematurely fixed or rested in the evolution of their dispositions are exposed to the danger that a flood of libido which finds no outlet, sexualizes their social tendencies and reverses the sublimation achieved in the course of develop-

ment. The libido of the paranoiac is then projected upon those about him. The symptoms are the creation of the patient not of his environment. The paranoiac tries to prove that the trouble is not with himself. The symptoms can only be understood when the alleged disturbing factors, the persecutors are understood to be but symbols of one aspect of his psychosis, the regression aspect which really embodies the energy which is working to his detriment."

A *sine qua non* to the understanding of the paranoid problem is an appreciation of the paranoic constitution as outlined by Meyer. He emphasizes a readiness to see biased meanings, a suspiciousness and an asocialism. There follow pathological interpretations of the casual and undeliberate actions of others. For a long time the conduct on the surface is not disturbed but inwardly there is a rigidity of thought, a loss of flexibility and lack of capacity to form correct judgments concerning environmental happenings.

He recognizes several gradations in the evolution of the paranoiac reaction.

(a) Uneasy, brooding, sensitive type, with an inability to correct notions and to make concessions.

(b) Appearance of dominant notions, suspicious, or ill-balanced aims

(c) False interpretations, with self-reference, and a tendency to systematization without and within

(d) Retrospective or hallucinatory falsifications

(e) Megalomaniac developments or deterioration, or inter-current acute episodes.

(f) At any period anti-social and dangerous reactions may result from the lack of adaptability and excessive assertion of the aberrant personality

It is important for the student to realize that there are basic and essential differences between paranoia and "paranoid". The former is an extremely rare psychosis, the latter is a common syndrome of mental symptoms which may

— occur in almost any psychosis The following table from Claudé may be helpful in making this important distinction.

Paranoic Psychoses	Paranoid Psychoses
Exaggeration of constitutional tendencies	Distortion of tendencies
Amplification of personality without signs of conflict	Fragmentation of personality
Contact with reality preserved	Signs of conflict
Exaggeration of affectivity (Ego-centricity)	Loss of contact with reality
Logical development (of delusions) upon false premises	Alteration of affectivity
Sound systematization in line with tendencies	Dissimulation of egocentricity
Frequent ideas of grandeur	Illogical and imperfect development of delusions
	Looseness of systematization
Exaggerated feelings of prejudice	Idea of grandeur without strong conviction
Self control better preserved	Frequent indifference with regard to persecutions
Slow development of defense measures	Early manifestation of delusion
Recourse to legal measures	Absurd reactions
	Hospitalization occurs early on account of odd behavior
	Delusions are coherent and expansive
	Memory falsification
Submission to authority	Stories are incoherent, changeable and absurd
	Reasoning poor
Delusional activity may not manifest itself for many years, permitting social adaptation to continue	Delusions change, are polymorphic
Delusional formation is coherent, only slowly expanding	
Memory good	Apathy, autistic life of fancy
Intellectual activity intense	
Ingenuous methods of defense	
Reti- cence	
Delusional system is fixed and well constructed	Loss of intellectual activity
Emotional reactions are lively.	Old acquisitions preserved
Possibility of intellectual growth exists	Nothing new is acquired
Neuro-vegetative reflexes are active	Neuro-vegetative reflexes often diminished or lost

PRESENTATION OF CLINICAL MATERIAL

Very briefly, we shall present three patients, revealing psychotic mixtures heavily tintured by what may be called

paranoid Later a few salient and differential aspects of the psychoses will be indicated

CASE 61. The first patient is a colored man forty-one years old His family history is recorded as negative for mental disorders or defects A few facts from his prepsychotic history may not be amiss: With the exception of the usual diseases of childhood and several attacks of Neisser's disease complicated by swollen testicles, his health history is good A physical examination made recently, including the serology of the blood and spinal fluid and chemistry of the blood, was entirely negative. We should have mentioned that at the age of eight, the patient was struck on the head by a hockey stick and for a short time was unconscious.

He easily completed the eighth grade of public school at the age of fourteen and began to work in a telephone exchange Subsequently he operated an elevator and was a hotel and pullman car porter. He has not worked since August, 1933

His first marital venture at the age of eighteen culminated in a divorce a year later A second marriage at twenty still endures and has produced 3 children, a child who died at the age of three and two living and healthy daughters.

The patient used alcohol to some excess for several years but has been alcohol-free since June, 1933 In this connection it is interesting to note that the first theme in his delusional essay was that of marital infidelity.

It appears from what the patient has told us, that in August, 1933, he felt sick and went to the family doctor who gave him medicine He realized shortly afterward that the doctor had given him poison and that he did this because he (the doctor) was in league with his wife. They were in a conspiracy to destroy his life, so that she might be protected from the consequences of her marital infidelities and be able to safely continue an immoral life When asked for a little proof concerning these serious accusations, he replies with positive sounding words but somewhat lame logic, that he could detect the arsenic and sodium cyanide in the medicine

by holding it up to the light and, furthermore, "voices" told him of the poison and of the infidelity of his wife and these voices said "terrible things" about him. He is constantly hearing the voices of his enemies calling him vile names.

There is an interesting thread of grandiosity woven into the delusional pattern. His real work in life is secret service and he has solved many important crimes committed here and in Europe. He can do this without leaving his chair since he possesses the power of mental telepathy, that enables him to know the instant when a crime has been committed and gives him at once the exact location of the criminal. We tell him frankly that we are skeptical about this remarkable power and obligingly he gives a demonstration. Rapidly he writes in pencil this message "Go to 1418 G—— Avenue, a robbery has just been committed at the residence of Mrs. R. P. J——. You will find her in a closet on the first floor, bound and gagged and all of the silver missing. The robber is B. P. S——, tall, dark, heavy-set man, age thirty-seven with blue eyes, and he is at present hiding behind the stairs in the basement of the building at 1612 A—— Street. He has a gun so be careful." This is the message the patient has just received word for word, through mental telepathy. Q. E. D. The government owes our patient 869 quadrillions of dollars for his secret service work.

The diagnosis in this case is paranoid dementia precox, perhaps influenced by alcohol.

CASE 62. The next patient, a physically ill-favored man, 50 years old, claims he is "more than a prophet." To give his name, X the second, the Savior and the Third Person of the Trinity. He wears a little skull-cap with the three paper gilt stars symbolic of his exalted position in Heaven. He has a decided overgrowth of the frontal bone due to the repeated irritation of striking his forehead against a stone floor until it was bleeding and bruised during the days of his expiation. He displays many drawings showing crude artistic ability.

They are drawings of the visions he has seen and they substantiate his claim of divinity

His family history is interesting. The father, a tailor, died of tuberculosis, the mother died of pneumonia at the age of sixty-two. An older brother once tried to shoot the patient, stating that he had ruined his daughter "so she couldn't have any children." Two sisters died of tuberculosis, one aged twenty-eight, the other thirty-two. A living sister was so cruelly treated by the mother, that a priest intervened and had her removed from the home. For seven years she was a patient in the neurological wards of a hospital suffering from hysterical hemiplegia, hemi-anesthesia and aphasia. She has now a paranoid psychosis.

Into this murky background of family, the patient's personal history follows like the chapters of a morbid Russian novel. He was born in 1883. At the age of two he was placed in an orphanage. He was dull and incorrigible and tells us that he was cruelly beaten. He had enuresis that recurred nightly and continued until the age of thirty. At the orphanage he says he learned many forms of sex perversion. Often he would cross his legs tightly, look at the women in charge, sink himself in phantasy and produce an orgasm. He frequently visualized himself kissing female genitalia or performing cunnilingus. This phantasy always produced an orgasm. He was both an active and passive participant in acts of sodomy and fellatio. These facts of sex life are delineated in some detail, since they unquestionably influenced the nature of subsequent psychotic phenomena.

At the age of fourteen, he left the orphanage, was apprenticed to a baker, but ran away in a week. He then had many and various jobs but, finally, for twelve years worked steadily and satisfactorily as a radiator painter. He drank beer moderately and since 1920 has not taken alcohol at all.

In his sex life he became more and more addicted to perverted practices. He was then a confirmed window and keyhole peeper and a fetichist, frequently experiencing an orgasm by kissing women's underclothing and stockings. He then lived with a woman, his common-law wife, and with her was sexually perverted. She was alcoholic and epileptic and died in 1920 in a grand mal seizure. He felt there was something strange about her death and soon after began to evolve his delusional system. All the women in whom he was interested were named Mary, an interesting fact, since his delusional ideas constantly refer to the Virgin Mary, the source of all his power and divinity. Following the death of his common-law wife, there was a short-lived relationship with a man.

He was admitted to the hospital in 1927, following a disturbance in a Catholic Church, when during the services he presented the priest with a "bible" written by himself. He insisted that it contained the only true word. He demanded that all other religions be discarded and that he be recognized as the Savior. For years he has occupied himself with his inspired writings and the reproduction of his visions in drawings.

From the story as related by the patient, he led a life of "sin," then repented and did penance including the infliction of severe pain upon himself. Then, after some years, he began to see visions of the "god-head." This was usually in the shape of a heart crowned with roses, but there were many variations, the "immaculate heart," a heart pierced by a sword, a heart with a finger pointing to the sacred wound, a heart-shaped face, the "face of God," etc. After several years these visions "came closer and closer," until finally his spirit was assumed into heaven (reborn "immaculate" of the Virgin), his body remaining on earth. In heaven he is the Savior and the Third Person of the Trinity.

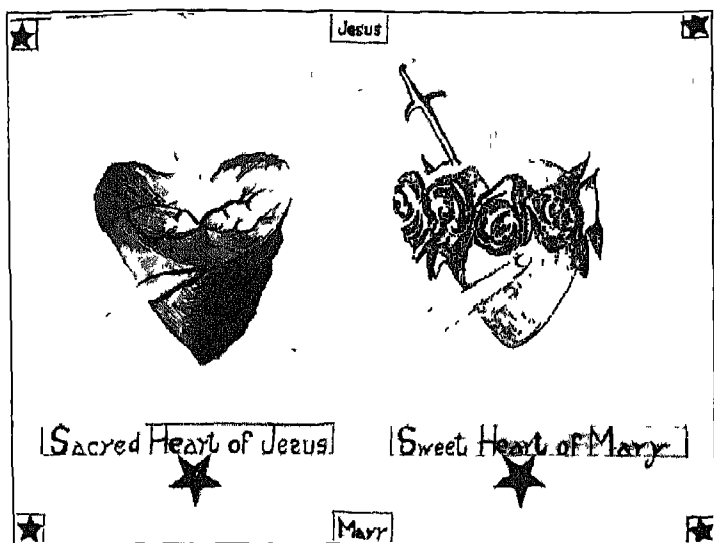


FIG 46



FIG 47

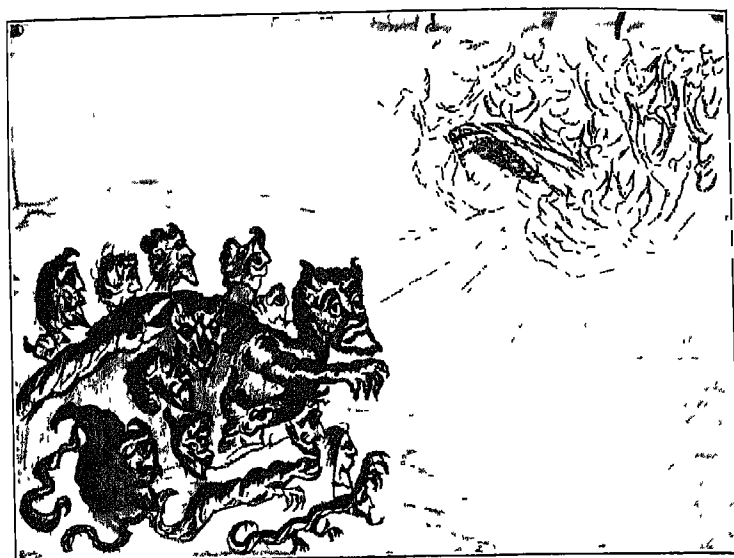


FIG 48



FIG. 49

His speech, his gestures, his clothing, his writings and his drawings are all replete with symbolism. For instance, his middle name, Xavier, is really X-Savior. He is not above making small and rather bad puns. "All I (pointing to the



FIG 50

eye) know (points to nose), and the Soul (points to the sole of shoe)."

For the sake of completion, we add that in this patient all physical examinations and serological studies have been negative. Diagnostically, Kraepelin would have labelled him paraphrenia.

Remarks on CASE 62. In this psychosis symbolism plays an important role. Symbolism which means letting one thing represent something else, occupies a very prominent place not only in the life of psychotic patients and children, but it is constantly and universally utilized in the everyday



FIG 51

life of adults Not only in religious and patriotic ceremonies, in literature, art, drama and music, not only in our love life, but even in mundane, commercial transactions is symbolism used For instance, a bit of paper called a check symbolizes money Symbolism simplifies social and business intercourse and has advanced the progress of civilization, since

it makes for a unification and economy of thought. It is not necessary to recite the history of this nation's struggle for independence since the display of our flag symbolizes this and much more and it is so accepted.

Symbolism is the natural language of psychotic life. Here, too, it promotes an economy of thought. It is interesting to note how in the course of time a vast delusional structure

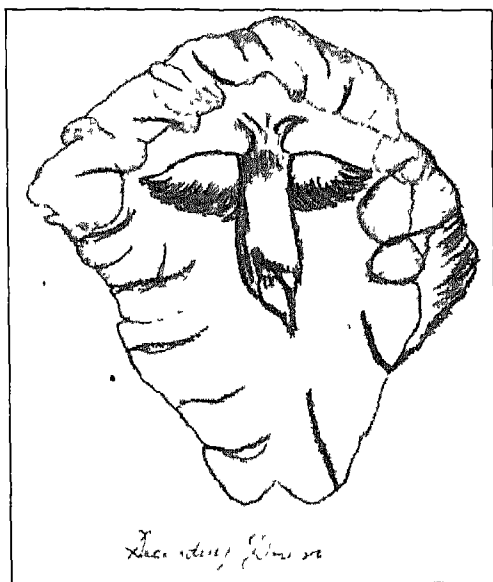


FIG. 52

finally comes to be represented by a single gesture or mannerism, like an uplifted thumb. Thus in our patient, a gilt star on his skull-cap indicates in his phantasy life his high place in heaven and symbolizes the whole delusional structure.

The drawings Figs 46-55 are not only richly symbolic but, illustrate very nicely one of the differences between logical and emotional thinking. Emotional thinking conditioned by emotional attitudes acquired in childhood, mental slants,

trends, prejudices, intolerances, and, in general, determined by the driving force of inner "complexes" is the common variety of thinking. Emotional thinking or thinking by complexes is not necessarily harmful physically but may be productive of much that is helpful and constructive. If, however, the "complex" threatens to lead into thought and

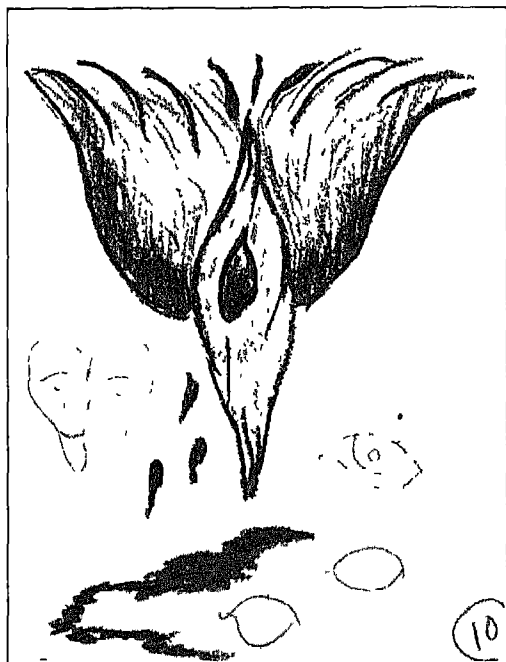


FIG 53

behavior that falls too far short of the measuring rod of the self ideal, or the judgment of the herd, so that it cannot be openly expressed in consciousness, then it must be expressed in camouflaged and devious fashion, since expression is demanded by the dominant force of the complex.

See how beautifully this is illustrated by the drawings of our patient. From the history it is obvious that he had an abnormal sex drive. This was repressed during his period

of penitence. But murder will out! For years the complex was disguised in the drawings as the sacred heart, the "god-head," the face of God, etc., now finally, as you see from the accompanying samples of "visions," it comes out frankly in the shape of male and female genitalia and indeed, almost every portion of the body is expressed in terms of sexuality

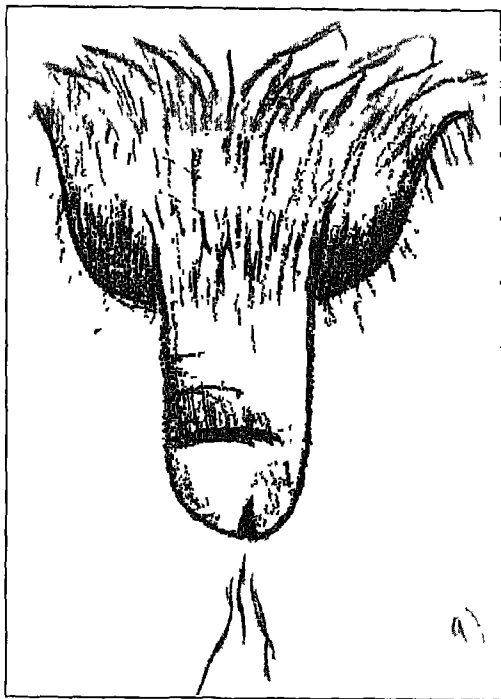


FIG. 54

CASE 63 The third patient, a quiet, serious, almost intense man, forty-one years old, was brought to the psychopathic pavillion at the instigation of a trust company in this city. It was said that he annoyed the officers of the company

From the statement of the patient, it appeared that he was a brilliant student in school and high school At fifteen he

began to work as an errand boy in a department store and through his industry aroused the interest of a wealthy business man, who helped him to secure a position in a trust company. He remained with the trust company for fifteen years, was successively promoted and reached the post of assistant secretary. Thirteen years ago he married, but did not get on with his wife, because she resented his interest in his mother. He was divorced in 1925, and soon after resigned from the trust company. As to his habits, he states

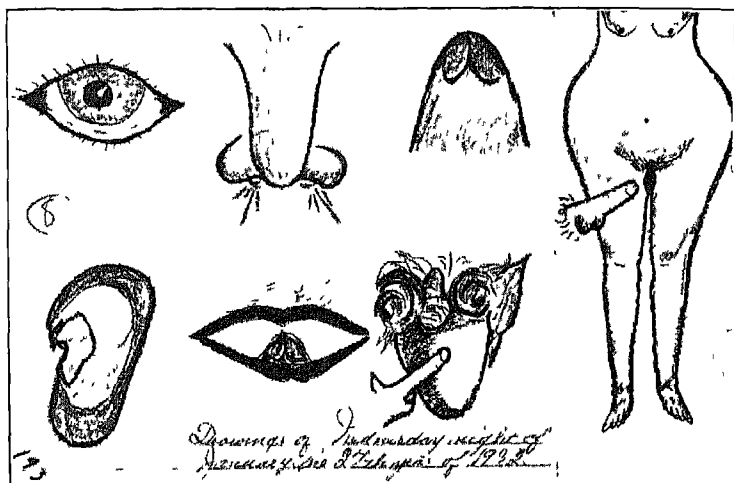


FIG 55

that he is a heavy smoker but never uses alcohol. Up to this point the story is wholly factual.

He goes on to relate that the previously mentioned wealthy business man established a large trust fund with the trust company for his benefit. He tells briefly, but pointedly, of the machinations of the trust company against him and of the unfair methods that have been practiced in order to deprive him of his monetary rights. He meets objections to the validity of his contentions rather cleverly and points out, that one need only read the newspapers to realize that

financiers are not necessarily men of integrity, likewise, in these days a bank is not at all anxious to lose control of a large fund. If pressed too closely, he smiles in a somewhat superior manner and says with impressive dignity. "After all, gentlemen, there is no good reason why I should discuss my private affairs publicly." When questioned about hallucinosis, he answers impatiently that people who hear "voices," receive "messages" and the like are assuredly insane. As he leaves the clinic he protests vehemently against his "unjust incarceration."

We have no knowledge of this patient's family history. The physical and the serological examinations yielded negative results.

In the days of kraepelinian nomenclature, this patient would have been diagnosed *paranoia vera*.

CLINICAL DISCUSSION

We have presented three rungs on the paranoid ladder. Paranoid is only a word, but it is a word so commonly employed in psychiatry, that there should be some idea of its significance. It occurs with great frequency in practically every psychiatric entity and syndrome, organic, toxic and functional.

Now let us first dispose of the few things that these three patients have in common. The physical and laboratory examinations were consistently negative throughout and we may discard (with the possible exception of alcohol in the first patient) the operation of a toxic factor. In each instance, the consciousness and orientation and, in general all those threads that connect us with personal, spatial and time relations were intact. All three patients have paranoid delusions, but here the similarity ends.

An important aspect of any psychotic reaction is the emotional tone. From the examinations and from the historical knowledge of these patients we regard the emo-

tional reaction of the first patient as wholly inadequate, the second as partially adequate and the third as entirely adequate. By this division we are attempting to give some measure of the affective response to the content of thought and in these instances, the content of the delusional systems.

Neither in general behavior, attitude or manner, did the first patient react in a way at all compatible with the content of his thought as evidenced by his speech. Remember, he believes his wife to be flagrantly unfaithful and conspiring with his enemies to murder him! Yet he is seemingly little if at all troubled, is quite casual and unconcerned and is willing enough to remain in a public mental hospital doing menial work cheerfully, even though, the government owes him 869 quadrillion dollars, and in spite of the fact that he is the world's most brilliant detective! We may safely predict that as time goes on, and, indeed, quite rapidly, his emotional response measured in terms of adequacy judged by ordinary standards will shrink more and more until it is almost nil.

The affective reaction in the second patient is somewhat more in keeping with his exalted beliefs. As the Savior and Third Person of the Trinity he is egotistical and superior, but he accepts skeptical remarks concerning his ideas good naturedly enough, has no dignity of bearing or manner, frequently descends to the level of coarse jokes and puns and readily enough accepts the shelter and food of a hospital. (He remains here voluntarily.) Scarcely does he fulfill the expectation of a divine personage.

Contrast the emotional response of these two patients with that of the third. He believes he is being defrauded of a huge sum of money and he acts the part perfectly. He discusses the matter reluctantly, is extremely dignified, intense, impatient and resentful of skeptical questioning; there is no trace of lightness or humor in his statements and he feels outraged at his incarceration and, demands his release at once. It is a tribute not only to the thoroughness of his logic but also to the depth of his emotional reaction,

that one of the students inquired seriously as to what right we had to deprive this man of his liberty.

Now let us examine the logical structure of the three systems of delusion held by these patients. The first patient may scarcely be said to present a system. See how weakly he argues the validity of his delusional beliefs. He has not the slightest proof that his wife has been unfaithful, he knew the Doctor gave him poison because he could identify arsenic and cyanide by holding the solution up to the light, he has many enemies because he hears their "voices" plotting against him, he is the greatest detective in the world and solves crimes committed thousands of miles away by mental telepathy, etc. Of such flimsy materials is the delusional structure made.

The second patient is somewhat more logical in the systematization of his false ideas, but there are many discrepancies. In effect, his divine pretensions are based on visions that he has reproduced in drawings. Without additional proof, he expects us to believe that he is the Savior and the Third Person of the Trinity.

The third patient is extremely logical and the various pieces of his delusional system dovetail neatly into each other. He meets objections cleverly and does not utilize the artificial support of hallucinosis to bolster up his claims. It might almost be said, that if one could hypothetically accept the conclusion of this patient, that a trust company owes him millions of dollars, then we would be quite convinced by the logic and soundness of the premises.

The question of hallucinosis may be disposed of very quickly. The first patient has constant and gross hallucinosis; the second derives some of his drawings from visual hallucinosis, the third never hallucinates and he would regard those who hear "voices" and see "visions" as insane.

The length of time necessary to complete the evolution and elaboration of the delusional system is a measure of the depth and completeness of the paranoia. In the first patient,

less than six months were required for the delusional ideation to reach its full flowering, in the paraphrenic nothing significant was added to the delusional conception after the first three years of the psychosis, the paranoiac came very gradually to the fruition of his false idea, indeed, it can scarcely be said after fourteen years to have reached completion, since the patient slowly continues to elaborate its detail

In regard to the personality it is safe to predict that in the first patient the disintegration has already begun and soon he will be psychically dilapidated, the second patient has held together only moderately well and after fourteen years the third is quite intact in his personality markings, and unquestionably will remain so

In the discussion we have more or less delineated the clinical boundaries of true paranoia. It may be thought of as the slow and furtive development of a lasting and immovable system of persecutory delusions. The premises of the delusion are logically reasoned and closely knit and there is an harmonious accord between thought content and affective response. There are no hallucinations, the personality is preserved intact and, of course, deterioration does not occur.

Descending only a few steps on the intelligence-emotional scale we come upon so-called "paraphrenia," also a late developing psychosis (as is the tendency in the paranoid reaction types) with its rich delusional content, often systematic, expansive and phantastic, comparatively slow in reaching its full growth, rather logically sustained in its argument, with a fairly satisfactory emotional response, absence of at least obvious and direct hallucinosis, but nevertheless, usually resulting in a gradual crumbling of the personality and a mild deterioration.

It is scarcely justifiable to think of paraphrenia as a psychiatric entity. It is one of the redundancies of Krapelin's passion for classification and is allied to the original

"Delire chronique a evolution systematique" of Magnan Kraepelin described four groups of paraphrenia, i.e. systematica, expansive, confabulatory and phantastic. The first probably belongs to paranoia and the remaining three to dementia precox.

A much longer descent brings us into the territory of the late maturing paranoid schizophrenic processes. Here the delusional system reaches its summit much more rapidly and only for a very short time maintains its intelligence-affective front, and only with much hallucinatory assistance. Then the disharmony begins and proceeds apace, the personality succumbs and the particular schizophrenic deterioration sets in.

In addition there are many paranoid types that scarcely come to open psychotic expression and a host of incomplete paranoid demonstrations to be observed in practically any psychosis.

A cross section from the writings of many authors emphasizes not only the homosexual and narcissistic influences but inferiority from any source in reaction with a vulnerable personality. Denied the palms of victory for success in life, rationalization is utilized to deal with the repressed tendencies, feelings of guilt, frustrated hopes, insults to pride, etc. According to Noyes, "the more readily and passively the individual gives up the struggle for self-esteem and for recognition the more nearly the reaction approaches schizophrenia."

" . . . The more largely the repressed material becomes ideational and verbal and the less the patient's relations with reality are disturbed, the more nearly the psychosis approaches traditional paranoia, and conversely, the larger the extent to which repressed material comes through in the form of hallucinations and the more primitive the form of adjustment, the more nearly does it approach schizophrenia."

Prognosis—Since the paranoid reaction types represent rigidities and pathological crystallizations of personality one

can scarcely expect favorable outcomes. There are abortive forms and "formes frustes" as reported by Gierlich and Friedman in which the patients present the picture of paranoia with "systematized, persecutory delusions, with great irascibility, with happy or sad affective states which last for several weeks, without sensory impairment, resulting in rapid recovery with perfect insight but, with, too, a tendency to periodicity."

Treatment. It is doubtful if the mental hospital can offer much therapeutic help in the well defined paranoid states. On the other hand, such important considerations as anti-social behavior with a range of petty annoyances to others to homicidal attempts and endless litigation frequently make hospitalization imperative. Certification of such patients may be productive of many legal entanglements and it may be advisable to secure a commitment by judicial order.

Paranoid patients may respond in considerable degrees to individual handling by a skilled psychiatrist. Armed with a thorough knowledge of the patient's life history (as recommended by Meyer), explanation and persuasion may sometimes bear good fruit if planted carefully by the psychiatrist in the previously prepared soil of confidence and mutual liking.

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CHAPTER IX

REACTIONS OF DEVELOPMENTAL AND CONSTITUTIONAL DEFECTS. (MENTAL DEFICIENCY AND CONSTITUTIONAL PSYCHOPATHIC INFERIORITY)

MENTAL DEFICIENCY

Mental deficiency is an interesting and vital community problem and has an important bearing on mental hygiene. The prevalence of feeble mindedness, in the opinion of Fernald (based on numerous army tests and examinations of children in special classes in the schools), is much greater than is realized. For instance, there are said to be from 40,000 to 60,000 feeble minded individuals in Massachusetts and, probably in the United States there are more than half a million. Furthermore, 400,000 children do not "get on" in the public school system. There are about 300,000 mental defectives in England and Wales. Lewis surveyed six areas in England, three rural and three urban, and found an incidence of mental defect amounting to 8.57 per each 1,000 individuals in the general population, the frequency being definitely higher in the urban areas. The ratio of idiot, imbecile and moron was as 5 : 20 : 75.

ETIOLOGY

There is considerable dispute as to the etiological importance of inheritance but obviously it is significant enough. Other causative factors are congenital syphilis, birth injury, such inflammatory infections as meningitis, encephalitis, certain neurological diseases, head trauma, endocrine disturbances and imbalances. There are other factors which

need further investigation, such as the age of the mother at the birth of the child, the place of the child in the order of birth and so forth

Classification. Exact classification must await more definite criteria. One of the earliest classification attempts divided mental defect into congenital and acquired. A scientific outgrowth of this simple division is the (a) Primary and (b) Secondary Amentia of Tredgold indicating respectively (a) a defective developmental potential in the germ cell and (b) an arrest of cerebral development by external factors acting after fertilization. There is here, of course, the obvious limitation that if on examination no external factor is discernible, the patient is stigmatized primary amentia. Penrose calls attention to the merits of the classification of Lewis "that mental defectives are roughly divisible into two groups. one represents the lower part of the normal frequency distribution curve of intelligence, and its members are termed subcultural; the other group is formed by pathological cases. One great value of this attempt at classification is that it placed emphasis on the fact that a very large number of those persons, who are labelled mentally defective, are really just as much a part of the normal population as people who are more intelligent than their fellows."

Biometrics has fostered a classification that gives to an idiot an I Q. from 0 to 20; an imbecile an I Q. from 20 to 50; while a moron has an I Q. above 50 and below 70.

It is important to translate these classifications into practical terms that have clinical and medico-legal significance.

According to the Mental Deficiency Act of Great Britain, the following definitions are laid down

1. Idiots, that is to say, persons in whose case there exists mental defectiveness of such a degree that they are unable to guard themselves against common physical dangers.

2. Imbeciles, that is to say, persons in whose case there exists mental defectiveness which, though not amounting to

idiocy, is yet so pronounced that they are incapable of managing themselves or their affairs, or, in the case of children, of being taught to do so

3 Feeble-minded persons, that is to say, persons in whose case there exists mental defectiveness which, though not amounting to imbecility, is yet so pronounced that they require care, supervision and control for their own protection or for the protection of others, or, in the case, of children, that they appear to be permanently incapable by reason of such defectiveness of receiving proper benefit from the instruction in ordinary schools.

4 Moral defectives, that is to say, persons in whose case there exists mental defectiveness coupled with strongly vicious or criminal propensities, and who require care, supervision and control for the protection of others.

The Act further stipulates that "mental defectiveness" here means a condition of arrested or incomplete development of mind existing before the age of eighteen years, whether arising from inherent causes or induced by disease or injury

Clinical experience has tabulated many pathological types which have, as well as classification value, a certain measure of etiological significance

Mongolism. So called originally because of the resemblance of face, skull, etc., to Mongolian features. The upper limit of intelligence is seven years. Usually it is lower. These patients are apt to be good-natured, lively and imitative. Penrose finds the following much more common in mongolism than in other mental defect

"A. Intelligence quotient between 15 and 29 inclusive, i.e. the most likely range of intelligence for mongols

B. Cephalic index 0.83 or higher

C. Epicanthic fold on either eye

D. Fissured tongue

E. Conjunctivitis at time of examination

F Transverse palmar line on either hand

G. One crease only on minimal digit of either hand."

Mongolism is always congenital and many of the signs are considered as fetal remnants. It occurs in about the ratio of 0.1 of one per cent. The most significant etiological factors are the comparatively advanced age of the mother and father¹ and the order of birth, more than 50% of mongols being the last born of the children. It is possible that on account of the age of the maternal tissues the embryo does not receive sufficient nourishment early in its development. Other factors that have been thought to be etilogically significant are congenital syphilis and inheritance.

Birth Injury Cases. Birth injury is unquestionably one of the causes of mental defect. The indiscriminate use of forceps or in some instances unduly prolonged labor may be operative.

Little's disease and congenital athetosis, both often manifesting mental defect, are usually cited as instances of birth trauma. Among 500 defectives, Penrose found 8 cases of spastic diplegia with a history of difficult labor but in 6 instances of congenital athetosis, there was no such history. The intelligence of the congenital athetosis group is usually better than in Little's disease and it has been suggested that in the athetosis group the hemorrhage has occurred in utero. Doll insists that there is a typical psychological picture in mental defect produced by birth injury without regard to the neurological picture. These patients improve markedly under proper training.

Cerebral Inflammations Here are included chiefly syphilis and encephalitis.

Congenital syphilis accounts for about 10% of institutional defectives and usually nothing is noted until the age of one year or more. Then various general and neurological

¹ Average age of mothers of 154 mongols was 37.2 years, of fathers 39.4 (Van der Scheer)

signs, including palsies of the limbs, eye muscles, etc., and the mental defect appear. There may be any level of defect but usually there is idiocy or imbecility. The mental arrest and deterioration of juvenile paresis appearing later in life is readily recognized.

Amentia is not the usual result of encephalitis epidemica. It is more likely to produce severe behavior disorder but about 2% of institutional defectives have a history of encephalitis.

Occasionally other inflammatory reactions, cerebrospinal meningitis, polioencephalitis and poliomyelitis are implicated in mental defect.

There are many other manifestations of mental defect that derive their names, usually, from outstanding clinical signs.

Microcephaly. The head is small, the cephalic index averaging 0.75, the convolutional markings are simple and the brain weighs only 800-900 gms. Microcephalics constitute about 1% of institutional defectives and are often troublesome and bad-tempered, but trainable.

Hydrocephaly. The important type is due to blocking of the ventricular outlets or failure of spinal fluid absorption, producing an evenly distributed swelling of the cranium with a content sometimes amounting to more than 2,000 c. c. The mental defect is often not severe. It may be caused by congenital lues, nonluetic basal meningitis and possibly internal hemorrhage sustained at birth.

Cretinism. This is a condition due to insufficient thyroid activity, constituting about 4% of institutional defectives. Cretinism resembles mongolism but in the former the cephalic index is high, while in the latter it is normal or low. The division of sporadic and endemic cretinism is usually made and the endemic form has a geographical distribution more or less restricted to mountainous districts, far from the sea, in which there is an insufficient

amount of iodine. The treatment of cretinism is the *early* and thorough administration of thyroid extract.

The chief pituitary syndrome associated with mental defect is Frolich's syndrome (dystrophia-adiposo-genitalis). There may be other pituitary adiposities and gigantism. An interesting but rare pituitary disorder is the Laurence-Moon-Biedl syndrome, occurring in siblings and marked by retinitis pigmentosa, polydactyly and sometimes night blindness.

Amaurotic family idiocy is rare but is constantly associated with profound mental defect. The infantile type begins in the first year. There is degeneration in the macular region of the retina ("cherry red spot"), eventuating in blindness, flaccid paralysis with wasting of the limbs and death usually at the age of two. The juvenile type begins later and its progress is slower. It occurs mainly in the Jewish race.

Other rarer conditions associated with mental defect are porencephaly, epiloia, neurofibromatosis and nerve degenerations that are somewhat hereditary, pseudo-hypertrophic muscular dystrophy, Friedreich's ataxia, Schilder's disease (encephalitis periaxialis diffusa) and Wilson's disease (progressive lenticular degeneration). There are also sensory deprivation types in which the loss of sight or hearing early in life, often due to inflammatory lesions, conditions mental defect. Many of these patients are very trainable. Finally, not only is it true, that many of these conditions involving neurological inflammatory reactions and deficits and endocrine diseases and imbalances are marked by epileptic phenomena as well as mental defect, but epilepsy in itself, especially when it occurs early in life, arrests the mind at a low level.

History and Examination.—The patient is entitled to thorough consideration from the angles of history and physical examination. It is only in this way that etiological and therapeutic possibilities can be developed. The history

should include the family record, which thoroughly inquires into the histories of the ancestors and the siblings. The age of the parents at the time of the birth of the child is important, as is, too, the order of the birth of the child.

The personal history begins with *conception* (Contraception? Alcohol? Other Poisoning?) *Pregnancy* (Mother's health? Illness? Endocrine disorder? Drugs, alcohol or other toxins? Exposure to x-ray or radium? Incomplete miscarriage? Unsuccessful abortion? Emotional condition during pregnancy? Mental shocks? Etc.). *Birth* (Complete history of the delivery Full term? Presentation? Instrumental? Condition of child at birth? Deformities? Weight? Etc) *Post Natal* (Breast fed? Diet? Convulsions? Diseases and injuries? Age of talking and walking? Disposition? Emotional experiences? Neurotic traits? Frights? Etc) In fact there is needed a complete history of the child and its development, physically, emotionally and intellectually Where there are older siblings, it is important to ask for comparisons with the other children at various ages The school history should be complete.

Physical Examination. Penrose stresses the necessity for intensive physical examination including the nervous system, vascular and respiratory systems, alimentary system, sexual organs, endocrine system, skeletal system, stigmata, skull measurements, general physique, stature, examination of the urine and blood, blood chemistry, blood Wassermann, spinal fluid, etc

Psychometrics and Psychological Testing. Psychological tests are valuable but they need to be interpreted with judgment A diagnosis should not be made from the data of any one test, but upon many careful tests concerning intellectual ability, manual ability and handicaps The following considerations should be kept in mind (1) An intelligence test is never infallible and is only approximately

correct (2) When the mental level is higher than 12 years, there are many sources of error. (3) A psychometric test gives little information concerning the emotions (4) Unless the child understands the requirements, the test is not valid (5) Certain factors, such as language difficulty, lack of cooperation, fear and emotional upheaval will interfere greatly with accuracy (6) Scarcely ever is a diagnosis to be made solely upon the result of the test. The findings must be viewed in the light of the entire examination

The better known tests are the Binet, Stanford-Binet, Porteus Maze, Koh's Block Design test, Merrill-Palmer, Army Alpha tests and others. A limited measure of information concerning the emotions may be obtained from some intelligence tests. Retardation, evidence of day-dreaming, "scattering" (inability to pass easy tests, along with the capacity to pass more difficult ones) are in some sense indicative of the presence of emotional disturbance. Word association tests may be used in the higher grades of mental defect.

PSYCHOTIC SYMPTOMS IN MENTAL DEFECT

Mental disease and mental defect are fundamentally different and psychotic episodes in defectives are usually incomplete and poorly defined. Periods of confusion with hallucinosis or outbreaks of uncontrollable and unrelated motor activity are fair examples. The intelligence defect stands out prominently. When the symptoms are more elaborate and approximate more completely manic-depressive or schizophrenic syndromes, they should be considered as belonging to these groups. Usually in dementia precox the clinical pattern is quite simple—mannerisms, negativism, hallucinosis, echolalia, echopraxia, perhaps abortive ideas of persecution and grandeur. "Chronic mania" has been reported. Hysteria and compulsion neuroses may occur

There is a considerable amount of homosexuality in morons. Statistics as to the frequency of criminalism are extremely variable, ranging from 3% to 55%. According to Fernald, only 5% of mental defectives have behavior disorders and delinquent tendencies and of these Fernald states only 2% are serious.

A few illustrative cases are cited ¹

CASE 64. J. G. An excitable idiot.

J. G. is now 19 years old, male and was admitted to the Training School in 1928 because his parents were afraid that he might injure himself during his periods of excitement.

Family History A maternal grandfather died of cerebro-spinal-syphilis. One brother and one sister are normal.

Personal History—First born child, born at full term in ordinary labor and considered a strong, healthy baby until a severe attack of pneumonia as an infant. Following this, he had to be retaught things that the parents felt that he had learned. The reteaching process was extremely difficult and in most instances the results were negative.

Physical Examination—J. G. is tall, fairly well developed but poorly nourished. There is general pallor, marked internal strabismus of the right eye, irregularities of the teeth and a marked staccato gait. The Wassermann, Dick and Schick tests are all negative.

Psychometric Grading—A cross section of a number of tests and the general reactions of the patient would give him an approximate mental level of 18 months.

Mental Status. During a residence in the Training School of more than 7 years, J. G. scarcely made any progress at all. He has learned to give a slight amount of help in dressing himself and usually he is able to feed himself with a spoon. His excitable periods have increased in duration and intensity and during these excited phases he tears his cloth-

¹ Case records supplied through the courtesy of Dr. Whitney of the Elwyn Training School.

ing, punches other boys, destroys anything that comes within his reach and is very noisy

DISCUSSION

This is a fair example of the ill-defined psychotic episodes that may occur in the lower grade feeble-minded. The case is of interest, too, since it is possible that the mental defect was caused by pneumonia

CASE 65 M. N. An imbecile with psychotic episodes

M. N. is a male, 22 years old and was admitted to the Training School in 1925. He has been repeatedly tested and according to the Binet and other classifications, there is a mental age of 5 years and 8 months and an I. Q. of 36.

Family and Personal History.—Little is known of the antecedents beyond the facts that the father was classed as a dull normal and the mother was definitely feeble minded. She deserted this child at the age of four months and nothing is known of her subsequent history. There is nothing unusual in the personal history. The boy was tried in school but on account of his pugnacious attitude toward his teacher and his classmates, he could not be retained in ordinary schools and was sent to the Training School.

Physical Examination. The patient is fairly well developed and well nourished with no physical symptoms other than an asthmatic type of respiration with wheezing rales on expiration. The Wassermann, Dick and Shick tests are all negative.

Mental Status. At first, M. N. had brief periods of mental excitability and temper tantrums but during the past few years the psychotic picture gradually became somewhat more elaborated. He now has fairly well defined periods of great motor excitability, lasting 2 or 3 months during which he tears his clothing, kicks, bites, spits and scratches and tries to break dishes. Often the excitement is so severe that he has to be restrained. There are shorter periods during

which he is quiet and inactive and sometimes refuses to eat

DISCUSSION

The psychotic episodes in this patient are better defined than in the preceeding case and there is some reason to regard them as demonstrations of a very simple type of manic depressive psychosis

CASE 66 R. S. Imbecile with schizophrenic-like manifestations

R. S. is a boy 16 years old and has been in the Training School for 6 years. He is an imbecile with a mental age of 6 years 10 months and an I. Q. of 49

Family and Personal History—Very little is known since the parents deserted their children soon after the birth of this patient. There is an elder brother and an older sister, both of whom are apparently normal.

Physical Examination. R. S. is a short, fat, stupid looking boy with a marked internal squint of the left eye, and a moderate degree of lordosis. The Wassermann, Dick and Schick tests are all negative. The tonsils and adenoids were removed six years ago.

Mental Status. On admission to the Training School, R. S. manifested an interest in the classroom work, but was able to make only very indifferent progress. In manual endeavors he showed some aptitude and enjoyed particularly making raffia baskets.

During the first two or three years he was an average imbecile boy. He associated with other children, enjoyed group activities, and did not give any particular trouble to the nurses.

About three years ago, his first psychotic outbreak occurred. The patient suddenly began to throw tools at other boys in the workshop, made peculiar, eerie noises and facial grimaces, particularly marked by a bilateral upward

rolling movement of the eyeballs. The first outbreak was of short duration but for quite sometime after R. S. was extremely sullen and unresponsive. Then there occurred a few months' remission. He learned to cane chairs and took pride in his work. Soon, however, a second psychotic phase appeared. During this attack he attempted to slash another boy with a knife. A little later he drove a hammer through a piece of chair-caning that he had just finished. Immediately afterward, he seemed quite surprised that he had done such a thing. It would seem probable that during a display of active psychotic symptoms, R. S. is reacting to hallucinations of hearing and is attempting to obey the voices. The episodes of mental symptoms continue and there is much evidence of increasing detachment from reality.

DISCUSSION

This is an example of the psychotic displays that occur which probably deserve to be thought of as schizophrenic. Kraepelin and other observers called attention to the fact that schizophrenia in primitive people is a very simple matter. It must be remembered that the amount of material available for the psychotic structure is quite limited. Therefore, in mental defectives, too, one can expect only fragmentary, abortive, and simple schizophrenias.

CASE 67. J. O. A moron with psychotic symptoms.

J. O., male, 30 years old, was admitted to the Training School in 1921. A series of psychological tests places his mental age at 9 years, 4 months and gives him an I. Q. of 16.

Family and Personal History—There is record of mental disease and mental defect on the maternal side. Nevertheless, three of the children are said to be normal. J. O. is third in order of birth, born in normal labor and was a healthy baby. He was nourished by his mother. The family have always attributed this boy's condition to a serious physical hazard which the mother experienced three

months prior to the birth of J. O. The maternal grandmother had died and this boy's mother had to make a trip of 250 miles and then drive 8 miles through the snow to attend the funeral. After this exposure, she was taken ill and did not recover until after her confinement.

Physical Examination. J. O. is fairly tall, well developed, with a staring, vacant expression. The entire physical examination, including the Wassermann was negative.

Mental Status. At the Training School he made slow but fairly good progress along academic and manual lines for about three years. During this time there was the manifestation of a sullen disposition and an antagonistic attitude towards the teachers. J. O. read a great deal, preferred to play alone and only very rarely would he take part in group activities or athletics.

Five years ago, he began to show frank symptoms of mental disorder when he began to tear his hair, his clothing and to attack other patients. His psychosis now shows definite cycle, beginning with a period of excitement during which he has to be restrained. Gradually the excitement subsides and J. O. becomes inactive, retarded and probably depressed. During this phase, it is often difficult to induce him to eat or dress. The intervals between the cycles of the psychosis are gradually lessening and the psychotic phases are becoming more pronounced and prolonged.

DISCUSSION

This is an example of a psychosis occurring in a moron and beginning at the age of 25.

The increasingly better definition of the phases of excitement and inactivity and the well defined tendency to assume a circular course would indicate a classification of manic-depressive. Again, as in the case of schizophrenia, the mental defective has far less associative material to draw

upon and therefore, one must not expect to witness the construction of an elaborate psychotic structure

MENTAL DEFECT AND MENTAL RETARDATION

It is important for the student to remember that there is a very important consideration involved in the differential diagnosis between true mental deficiency and mental retardation. Mental retardation may be defined as intellectual backwardness due to some physical, mental or environmental cause. It is usually true that if this cause can be discovered and removed, the child will return to a normal intellectual level. One of us was able to determine that in 56% of the children who were brought to the Out Patient Clinic, on the suspicion that they were feeble-minded, actual mental deficiency did not exist at all. There are instances in which the retardation is due to congenital syphilis, anemia, parasitic infections, heart and kidney disease, infected tonsils and adenoids, eye strain, tuberculosis, rickets and many other conditions. Sometimes, an analysis of the case reveals the fact that there is a mental conflict in the mind of the child which is absorbing all his attention, and, therefore, is preventing him from making progress in his school work. Again, it may be, that a difficult or destructive environment exists in the home which is utilizing energy which should be applied to the acquisition of education. To make a diagnosis of mental deficiency is a serious matter and it should not be done on the basis of any single test. It is certainly true that while the psychometric measurement is very valuable, yet, its value is often relative, and it should never be the primary factor upon which judgment is based.

TREATMENT

Prevention. The discussion of the prevention of mental defect leads into debatable territory. There are four eugenic considerations, (a) prohibition of marriage, (b) contraception,

(c) segregation and (d) sterilization. The first, obviously would not prevent the birth of illegitimate, defective children. The second would scarcely be adequately carried out by the majority of defectives. Segregation of all defectives is scarcely practical, since they exist in such great numbers that the economic burden would be staggering. Sterilization offers some help but is scarcely the panacea that eugenics supposes. Penrose believes it would only lessen the incidence of mental defect by 5%. This is based on the assertion that only 5% of defectives have one or the other defective parent.

Too little attention is paid to preventive measures during pregnancy, labor and during infant life. The health of the expectant mother should be carefully safeguarded, physically and emotionally. The diet should be free of any vitamin or other deficiency. If there is lues, it must be skillfully treated. Every resource of obstetrics should be directed toward minimizing birth injury. The infant should be brought to its optimum and it is particularly important to be sure that the necessary vitamins are included in the diet in sufficient quantities.

Treatment of Mental Defect. Unfortunately, there are not many opportunities for specific therapy. In a few of the endocrine situations, like cretinism and, now and then in some of the sensory deprivation states, brilliant therapeutic results are obtained, in the one instance by thyroid, in the other by expert training and teaching. If there is congenital lues it should be vigorously treated. Birth trauma or head trauma later in life needs the benefit of expert neurosurgical opinion. Orthopedic surgery is very helpful in many paralytic cases.

General physical hygiene and the care of the body is doubly important in mental defectives since without teaching and habit formation even ordinary cleanliness will be neglected and many sources of trouble, such as decayed teeth, will develop.

The question of obtaining the maximum of mental capacity and producing a measure of self-support and satisfaction in life, resolves itself into the possibility of a special training and educational program. This is admirably done in many institutions, public and private.

The economic and social problem of mental defect is too vast to be answered entirely by the institutional segregation of mental defectives. It is necessary to provide an extra-mural program. This should include (1) early recognition, classification, and registration of the feeble minded, (2) training during the formative years, (3) supervision in the community, (4) institutionalization of a small percentage comprising chiefly low grade types, those who have criminal tendencies, those who are seriously delinquent or criminal and those who are severely handicapped physically.

Early recognition, classification and registration are possible through routine, standardized neuropsychiatric examination of school children. Registration can be carried out through the Board of Health by an obligatory method, such as is now employed for contagious diseases. Adequate clinics, either stationary or travelling, are needed for this step, and in this way the number of feeble minded in the community can be accurately estimated and their care planned.

After recognition, early training on a large scale is only possible through the organization of special training facilities in our public school system. Through this specialized instruction and proper habit training, the child often is enabled to become self-supporting and better able to take care of himself. This plan is definitely more valuable and economical than attempts at permanent institutionalization, even if the means were available for this step.

With some of these thoughts in mind, the White House Conference placed itself on record as follows: "It is to be

hoped that before many years the public school, through special classes and other pedagogic provisions, will be so organized to deal with mentally deficient children that it will be the largest and most important single agency in developing them for economic and social usefulness and in preventing social failure. Indeed, it already fills such a place, in some states, and if the following points were always observed, would fill it in many more.

"Special class work with teachers specially trained, particularly in hand work, should be provided for a relatively large group

"Visiting teachers, nurses, educational counselors, and so forth, should have a thorough understanding of the problems of feeble-mindedness

"Parents of feeble-minded children should be advised by the visiting or special teacher. This is, in many cases, a difficult task requiring great tact

"The curriculum should be eminently practical with the emphasis on the manual, although academic work should be given according to the child's capacity—fourth or fifth grade level is usually the limit. At suitable intervals there should be a program of thorough reexamination to determine the child's progress

"Adequate follow-up work and vocational guidance should be instituted

"Diversification should be practiced wherever possible, since the higher-grade feeble-minded vary widely among themselves, and full recognition should be given this fact in the organization of special classes

"Children with special disabilities should not be dealt with in the same way as the others.

"It has been suggested that, in addition to the strictly special class work, regular classes should be differentiated, that is, they should make provision for ability grouping with correspondingly modified curricula

"Manual training should be substituted for certain forms of academic work; in this way such classes (sometimes called Z classes) could well receive intellectually sub-normal children who might otherwise be placed in special classes for the feeble-minded, and many other children who do not receive much lasting benefit from the strictly academic subjects

"The present curricula are fetiches, not suited to modern life. From the elementary grades through the college, they are too academic. Inadequate even for average children, they are disastrous for the mentally deficient. The social prestige attaching to traditional types of education makes it very difficult to persuade parents of these children to accept something just as good, the more so because the attitudes of many teachers buttress the prestige of educational tradition.

"In order to train mentally deficient children, we must not only modify curricula, but we must also prove to those parentally and financially responsible for them that the modified education is not merely just as good but is infinitely better because it really does educate, that is, it prepares for successful living.

"Up to date only a few changes in curricula have been made to meet more adequately the needs of mentally handicapped children. Although vocational courses have been introduced, either in specialized schools or as adjuncts of junior high schools, there has been no clear cut policy of selection, and this, together with the stigma attaching to non-academic courses, has rendered most of the courses far less effective than they might be.

"Changes should be far more thoroughgoing. Teachers in the elementary schools should prepare their intellectually subnormal and dull pupils for the industrial courses in the high schools. While at this time a detailed program is not feasible the curriculum must be changed to meet the needs

of the large group of children who are not profiting by the present academic curriculum. By planning a course in the manual activities with related academic work so organized that pupils will be promoted on the basis of achievement, they will be in the junior or senior high school at the proper age, accomplishing something worthwhile, and not humiliated because they are not in the college preparatory courses.

"Unfortunately at present the average public school extends its differentiated provisions, when it has any, to 2 per cent of the school population at most, and then usually in the form of special classes for those who may be labeled as a typical or markedly retarded, generally feeble-minded, from whatever cause. The large group who are intellectually unable to derive maximum benefit from the regular curriculum, and who would be helped to a marked degree by a change in the type of training they receive, are not trained for those occupations in which their handicap of intellectual subnormality puts them at a minimum of disadvantage. The percentage of those handicapped by simple intellectual subnormality is much larger than that of those handicapped by feeble-mindedness, and if the former group are to be cared for, present differentiated provisions must be greatly increased. Special classes as now conducted are not enough."

Finally, any comprehensive plan must provide for supervision and colonization.

REFERENCE

LIONEL S. PENROSE. *Mental Defect*. Farrar and Rinehart, N. Y., 1934.

CONSTITUTIONAL PSYCHOPATHIC INFERIOR REACTION TYPES

Nowhere are the inadequacies of psychiatric information better illustrated than in the designation Constitutional Psychopathic Inferiorty. It is an unsatisfactory diagnosis from every angle. Being without benefit of pathology either structural or chemical or without consistency in the personality deviations and distortions, as is to be expected etiological

considerations are few and generalized. Diagnosis is uncertain and treatment unproductive of lasting benefit.

Whenever nosology attempts to crystallize too much in advance of actual knowledge one may expect many difficulties. Without clear thinking along pathological or etiological lines, the diagnosis is too often on a "post hoc, ergo propter hoc" basis and retrospectively from the observations of bad behavior, questionable causation is assumed. The diagnosis has been utilized not very constructively by some experts as a medico-legal defense. The symptomatological gates are thrown wide open, so that we find included a heterogeneous group of criminals, the emotionally unstable, the inadequate, paranoid personalities, drug addicts, pathological liars, swindlers, the kleptomaniac, the pyromaniac, the morally degenerate, sexual psychopaths, the hobo, the pseudo querulant, malingerers, etc. It is obvious that further study will demonstrate that large segments of many of these classes in reality belong to better defined psychotic groups such as manic-depressive and schizophrenia.

In general, by the term constitutional psychopathic inferior, one means an individual who is ill equipped from birth to meet the demands of the environment. We feel that in true psychopathic inferiority *the primary consideration is a defect state*. This defect is not like that found in mental deficiency which involves primarily the intellectual assets of the patient, but a defect consisting of an apparent constitutional lack of responsiveness to the social demands of honesty or truthfulness or decency or consideration for others and perhaps, chiefly *an inability to profit by experience*. The defect and its inevitable consequences incapacitate the individual from settling down to any permanent standardized activity. The individual is, therefore, emotionally unstable, is not to be depended upon, acts on impulses shows poor judgment and is constantly led into unwise activities, the consequence of which he is able to realize intellectually, but

not evaluate. Since one cannot explain or trace the abnormal behavior of these individuals to any definite disease or organic process, the conclusion is justifiable at present that there is always some constitutional lack of endowment in each case, and, for purposes of classification, the group is termed constitutional inferior, to which the word psychopathic is added to signify the marked instability and lack of the social responsiveness previously discussed. The social and educational problems of this class of patients, although very difficult, are of paramount importance. The relationship of this group to such problems as prostitution, venereal disease, vagrancy, delinquency, illegitimacy, alcoholism, and drug addiction, constitutes an active need for thorough research and the dissemination of knowledge throughout every community. The need for careful supervision and definite measures to safeguard society at large from these individuals should stimulate serious thinking by people in general. Kraepelin indicates the truth of this assertion when he shows that fifty-four per cent of the men and nearly one-third of the women in this group as a result of their moral deterioration come into contact with the courts on account of threats, assaults, quarrels and vagrancy.

Unfortunately, statistics at present are unavailable to show the real incidence of constitutional psychopathic inferiority in the community. A study of 70,989 first admissions to State Hospitals shows that psychoses associated with this condition constitute 1.2% of the total number; but, it must be recalled that the psychopathic inferior is unlikely to be admitted to mental hospitals.

Sometimes the psychotic reaction belongs to or, certainly is closely allied to schizophrenia or manic-depressive. More often we are dealing with episodic outbreaks manifested as brief unmotivated excitements or depressions, marked emotional instabilities, extreme impulsivities, ill defined paranoid reactions, transient hallucinatory episodes, etc.

The following case illustrates several characteristics of psychopathic inferiority *Inadequacy, emotional instability, impulsive behavior, poor judgment, unwise activities, ethical deterioration, inability to profit by experience* and it shows, too, *somewhat typical psychotic episodes.*

CASE 68. Age 23 Male White.

This young man is a scion of a prominent and wealthy Baltimore family. His father, a high powered executive, who was extremely successful, unscrupulous and tended to be alcoholic, died ten years ago. The mother is alive and is "nervous" and emotionally unstable. There were two brothers and one sister. The environment of the home was unhappy; the boys were afraid of the father and there were frequent quarrels between the parents. Both the patient's brothers have malignant schizophrenia. The sister is happily married and is normal.

The boyhood of this patient was about as might be expected in a child subjected alternately to the spoiling of his mother and the bullying of his father. He did badly in school particularly after the death of his father and in spite of a rather good intellectual endowment, the school record was one of lack of progress, frequent running away from boarding school, breaking of rules, etc. At best he has an 8th grade education. His work record is even worse. Numerous jobs and positions embracing many varieties of indoor and outdoor work were obtained and even created for him. In none of them did he show any real interest and in none did he remain more than a few months. Once he thought, probably with some slight justification that his fellow workers were annoying him because he "came from a good family." Recently, he has been given a farm on which to raise horses, but he pays very little attention to this occupation for which he expressed great enthusiasm.

His emotional instability, defective judgment and unwise activities are pronounced. Small amounts of alcohol, a little

flattery or anything out of the ordinary tenor "upset" him and there may be "ugliness," "big talk," boisterous hilarity, suggestibility, temper outbreaks. He is uneasy with those of his own station in life and seeks the company of people of very questionable character. Three years ago, while under the influence of alcohol he had intercourse with a prostitute and became infected with syphilis. Twice, only quick intervention saved him from marriage with "gold-diggers." He is close about money spent for others but is apt to buy for himself expensive watches, canes, clothes, etc.

He is scarcely alcoholic but a few drinks are sufficient to remove the small amount of inhibition. During the past five years he has had seven psychotic episodes, the longest lasting three weeks. Five of them were in relation to alcoholic indulgence. These episodes were marked by what may be only described as vague, rambling and occasionally somewhat incoherent speech, motor restlessness, simple hallucinosis (lights and shadows on the wall), suspicious attitudes and indefinite paranoid trends during which he referred to his belief that one of the maids in his mother's house might be a detective.

A somewhat parallel case from another walk in life is cited.

CASE 69 L F Age 34 years. Admitted, September 21st Discharged October 25th Typical case showing conduct disorder of many types. An inadequate personality with inability to adjust vocationally. Vagrancy. Undertook many enterprises. Court record. Adjusted well in the army.

The father is a chronic alcoholic and one sister is delinquent. Repeated physical examinations were entirely negative.

Normal birth and development. He had the usual childhood diseases with no sequelae. He began school at the age of 5 and left at the age of 12, when he first became delinquent. Despite the fact that he was mischievous and always in trouble, his progress in school was excellent and he reached

the seventh grade with no failures. He was considered very bright in school and was a source of pride to his parents because of his rapid progress. His delinquent career since this time will be outlined.

He has been mildly alcoholic from the age of 16 and has been frequently intoxicated. He developed many sex interests at an early age, beginning heterosexual activities when 14.

General make-up was that of an inadequate personality. He was unable to adjust himself to any one vocation for more than a short period of time. He was well liked by all with whom he came in contact on account of his excellent appearance and frank, agreeable manner. Took great pride in his clothes, frequently spending his last cent on them.

Lawrence was brought into the hospital by the patrol after being arrested for loitering in the park. He gave a very interesting history which his relatives verified. He first came in contact with the authorities at the age of 12 years, and at this time was committed to a reform school for truancy, vagrancy, and petty larceny. He remained in this school for three years and caused considerable trouble. On one occasion, he organized a gang to run away from the institution. He succeeded in running away four times himself, usually being returned within a few weeks. On leaving the institution, at the age of 15, he began working as a clerk getting along very well for six months, mainly owing to his excellent appearance. On being advanced by his employer and given more responsibility and trust, he stole \$500.00 and was shortly afterwards arrested. His family said that he realized the nature of this theft, but made no attempt to elude the authorities and was arrested after spending one-half of the money in the course of two days. He was given a three year sentence, two years of which he served in prison and was then paroled on account of excellent behavior. For the next two years, Lawrence got along fairly

well, but having on an average, nine different jobs each year. During this period he worked in eight of our largest cities. His work varied from laboring to office work, with many other jobs, such as bootblack, tailor's assistant, chauffeur, farm hand, salesman, etc. The cities he resided in were New York, Philadelphia, Boston, Baltimore, Cleveland, Detroit, San Francisco and Los Angeles. He was never thrifty. Fortunately, at this time Lawrence was accepted in the draft and sent overseas in July 1917. Much to the surprise of his parents, he adjusted himself splendidly in the Army. He was promoted from private to corporal and was honorably discharged January 1920. Shortly after his discharge from the Army, Lawrence returned to his old habits and developed into a fairly clever pickpocket. He never appeared disturbed when he was arraigned in court. He served short sentences in the County Prison. Finally, after being arrested for vagrancy he was sent to the hospital for observation.

At the time of admission, Lawrence was very surly, sullen and antagonistic. This was gradually replaced by a tendency to boss the other patients and he finally became very domineering. He was much attached to one of the ward physicians, insisting on doing all kinds of services for him, such as preparing cards, writing out the names of new patients, etc. However, he was unstable in this affection, and, after two or three weeks, became extremely antagonistic and transferred his affection to another physician. He was often discourteous to the nurses, though at times extremely affectionate. Often he was a real help about the ward. He showed marked affective instability in his sudden swings of mood. He had no paranoid ideas and realized that he had always been well treated by the authorities and that the judges and magistrates had always given him lenient consideration. No delusions or hallucinations were elicited, except an hallucinatory experience several years ago,

evidently due to alcohol. Sensorium was normal. He was well oriented for time, place and person. There were no difficulties of memory, general information or calculation. Poor judgment and insight.

After a month's observation, Lawrence was discharged at his relatives' request. There were very anxious to have him re-enlist in the Army. Our follow-up records show, however, that after spending three weeks at home, Lawrence disappeared and he was not heard from again until six months later when he was working in a municipal department as a chauffeur. So far he had not collided with the authorities, although his letters show that he is beginning to become dissatisfied with this vocation.

DISCUSSION

A composite of these two patients gives a true picture of the constitutional psychopathic inferior and reveals the marked emotional, judgment and character defect. It is to be noted that the inheritance was badly tainted, at least in one instance, but, nevertheless a better mental hygiene of childhood might have provided some insurance against subsequent delinquencies. The second patient adjusted well in the Army and, there is unquestionably a measure of treatment value in standardized disciplinary routine. In the second patient, too careful supervision and more interest and encouragement after the initial reform school experience and during it, would probably have been wise steps in the direction of better citizenship. Universally poor results are obtained by the old fashioned reformatory and much more hopeful is the establishment of vocational training schools.

CASES 70 AND 71. *Illustrating sexual behavior, immoral or rather unmoral which is fairly typical of a group of psychopathic inferiors.*

One of us was asked by the Court to examine A L , a white male, 26 years old and E B , a white female, 31 years old.

A. L. was being tried for aggravated assault and battery with intent to kill.

The verified account of the detective, concurred in by both A. L. and E. B., was as follows

A. L. driving his car one morning in Brooklyn saw E B (whom he did not know), walking on the street and "picked her up." She invited him to her apartment and within a period of 24 hours, they had sex intercourse 9 or 10 times. E. B. said she was going to Florida to look for work and the man offered to drive her as far as Baltimore When they reached this City at night, he proposed sex intercourse, but the woman objected on the ground that they might be seen. Then by mutual consent, they drove to an isolated section of the city

At this point the stories diverge The woman insisted that they consummated the sex act in the car and that immediately after, the man struck her in the head with a hammer, rendering her unconscious. It is true that she was found unconscious some hours later with severe contusions and lacerations of the scalp.

The man with seeming frankness states that he cannot understand why E B. would make such an absurd charge She is, in his opinion, a fine woman and they got on splendidly together. His version is this She was at the side of the road and he was in the car preparing for the sex act. Suddenly he heard a scream. "It must have come from E. B." Before he had time to reflect two thugs attacked him, beat him into submission and stole \$18 00 from him. At the point of a gun pressed against his ribs, they forced him to drive the car away After several miles the thugs left the car He was dazed and did not know the direction but drove until he came to a more brightly lighted section of the

city He saw a policeman and was on the point of telling him the whole story, but refrained since he feared his wife might hear of his escapade. He then drove back to Brooklyn and went home. He cannot imagine why E. B. would make such a charge against him He has heard that sometimes when someone has been rendered unconscious by a blow upon the head, they may be quite confused when they come to and not remember what has happened. He presumes that is why E. B. thought he had struck her when it is obvious to him that she must have been attacked by a confederate of the thugs who had assailed him.

A. L. is a fairly healthy young man of the sheik type, apparently engagingly frank and anxious to help clear up the mystery. Nothing is known of the family history He was bright and got on well in school, being compelled to stop at the end of the first year High School in order to work. His work record is fairly good and he held one position for five years earning finally \$45.00 a week. As a boy he was arrested for "breaking and entering" but he says he was at once released as it was only a boyish prank. When he was 18 years old he was arrested for rape of a girl fifteen years of age. He was held for court, but denied the rape and swore that the sex relationship was by mutual consent He escaped jail sentence by marrying the girl. Five years ago he was arrested on complaint of his wife for disturbing the peace A. L. says he was trying to defend his wife against her sister and that the charge was withdrawn.

At the present time he is living with his wife but there have been many separations There is one child six years old His sex life has been grossly immoral and unbelievably promiscuous

Practically nothing is known concerning the family history of E. B. Apparently during her girlhood and later, she frequently exhibited violent temper tantrums during which she was violent, abusive and destructive She has a common

school education. She married at twenty, is divorced, and has a child, a girl, seven years old.

Physically, the examinations are entirely negative. She is an extremely comely woman

Like A. L. her sex life has been promiscuous and immoral to an extreme degree. She is not a prostitute.

Both A. L. and E. B. discussed their sex lives freely. There was no shame reaction in either. They were in intellectual agreement with the assertion that it was "wrong" to live as they lived but it was quite obvious that in either instance, the emotional and ethical reaction to the behavior was nil

DISCUSSION

The situation is presented since it describes the sex behavior of certain types of psychopathic inferiors, which should be designated unmoral rather than immoral. It is a typical constitutional psychopathic defect phenomenon. The intellect is capable of appreciating that the conduct is considered wrong. The emotional-ethical sphere is so circumscribed that there is an *absence of feeling about it*.

The situation, too, illustrates nicely, the inadequacy of our present medico-legal possibilities. In the instance of the man, a conscientious, very intelligent and sociologically minded Judge could do nothing but sentence the man to a term of several years imprisonment. There was, of course, no charge against the woman.

One of us was asked to outline a course of procedure from the standpoint of society. This would consider the segregation of both man and woman in work colonies, their sterilization and the removal of the children from their improper care. Unfortunately, only a very small portion, if any, of this program can be carried out.

CASE 72. *M W Age 23 Male. Single Sent in for observation November 16th, for impersonating a minister*

and misrepresenting himself as a boy evangelist from Princeton A typical case of pathological lying.

The history obtained from the relatives stated that two years ago, the patient began to do street corner speaking, in association with another man. He worked with this man for about a year, then they quarreled and the patient left him. He told his parents that he had been attending a Bible Institute and night school, and that his greatest ambition was to be ordained. He preached at various churches about the city and had no difficulty in getting appointments. Several months ago, he embarrassed his family by forging a check for \$25.00 and he did not seem very much upset when threatened with a jail sentence. He was later placed on parole by a lenient magistrate.

Normal birth and development. He had the usual childhood diseases. He always had good general health. He began school at the age of six and was graduated from grammar school at the age of fourteen. He has never been able to work regularly, holding numerous positions in the past few years. Otherwise, his habits were normal.

Father was once a drug addict and married twice. There was marked domestic infelicity in the home. His mother died in childbirth when the patient was about four years old. His father, born in Ireland, has had little or no education and is of an exceedingly nervous temperament. Two uncles have identified themselves with abnormal religious sects, one is a Christian Scientist, the other a Russellite. Two brothers and one sister died in infancy, and one living sister is a trained nurse, apparently of fine intelligence and of very good character.

A well known minister who has had many experiences with the patient gave the following history. "The patient began early to steal. His father had to keep his money under lock and key. The patient lost a position as a gardener because he stole a watch from a fellow laborer. He brought the

watch home and presented it to his father, who, feeling that it was stolen, put it away until inquiry was made for it and then returned it. The patient's eccentricities come under four distinct heads. First, a very marked tendency to seek publicity, standing in public places where he has no right, calling attention to himself by shaking hands with people, sitting up front in meetings, speaking publicly at every opportunity. Second, his prevarications. He told stories of being a student for the ministry and of attending various institutions such as the Philadelphia School of the Bible, the Drew Theological Seminary, Franklin and Marshall College, Princeton Theological Seminary. He represented himself as an evangelist and preacher and secured engagements to preach in various churches and missions throughout the city. To illustrate. He would call a minister on the phone and say 'This is Mr. Green of the Senior Class of Princeton Theological Seminary. I am arranging for Field Day, for Princeton Theological Seminary, in the city of Philadelphia. I wish to send you Mr. M. W., the noted boy evangelist.' On such a basis he would make an engagement for himself to preach. Sometimes he secured permission and sometimes he did not. He has falsely represented himself and has made purchases under assumed names. To illustrate. He went to a store on Lancaster Avenue, said he was Dr. X of West Church and wished to buy some clerical collars. They did not have these collars in stock, but he ordered a box of one dozen and told the clerk to notify him when they came, giving the name and address of the minister, so that the notification came to Dr. X. Third, His peculiarities have shown themselves by stealing in a manner which did not give evidence of any cleverness. For instance, in a public room he took a pair of gloves out of a man's pocket and placed them in his own pocket, not attempting to conceal them, but allowing them to stick half way out. He took Bibles with names and addresses in them and presented one to a young woman upon

whom he called Fourth. He has had varied and ardent courtships, becoming engaged to many girls and always telling them the same story of his preparation for the ministry and adding to it, fabulous tales of service in the army overseas which included the death of two brothers, 'killed in action'. He persisted in trying to lie out of an embarrassing situation until he was cornered and then became silent. Those for whom he has worked have been constantly exasperated by his unwillingness to do as he was told. He has a rather strange and striking memory, being able to repeat long portions of sermons which he has heard. When he was told to stop preaching, he said that he could not stop—it was in him and he 'just had to preach'."

Patient has a good appearance, 5' 9" in height and weighs 150 pounds. All systems were normal. Blood pressure was 140/85. Laboratory data was normal in every detail including blood and spinal fluid.

During the early part of his stay in the hospital, the patient's behavior was very exemplary. He asked repeatedly for his discharge, insisting that he was normal in every respect. He described his religious experiences and stated that he attended a Bible School with an enrollment of 100 students. Upon investigation, it was found that there were only about 20 pupils in the school. He made his statements so convincing to the examiners that they were often taken as the truth. For example, he said that he had heard his father was critically ill and begged a visitor to go to his home. On doing this, it was found that the patient had not received any notification and his father was working as usual. He lied repeatedly concerning his religious training and his experiences, saying that he attended Princeton, received various certificates and degrees. Upon investigating his story, through Social Service, we were able to get the above facts from a well known Presbyterian minister in the city. When confronted with his prevarications, the

patient did not break down, but said "I am so sorry, Doctor, that you do not believe these things I say" He did not accept any of the evidence showing that his statements were false. He continued to lie continually to doctors and nurses and the other patients on the ward, so that there was absolutely no improvement during the period of observation. He was discharged at the request of his father, with the understanding that he was to be placed in a rural environment under rigid discipline. Later reports show that the patient still has many episodic outbreaks during which he relates remarkable stories. All reconstructive measures have been unavailing and the social service organizations who have come into contact with the patient are very anxious to arrange for his permanent commitment.

DISCUSSION

The pathological liar, lies for the satisfaction and, perhaps urge of lying, with insufficient objective. As the lies are elaborated, it is questionable how clearly the patient himself can distinguish between truth and falsehood. In any event falsification of memory would seem to be involved since normal uncertainty of memory is readily filled in with more and more assurance.

The lies are seemingly phantasy wish fulfillments, not unlike the more or less normal phantasies of children and grow by a two-fold process of elaboration and by the continuous addition of material in the effort to continue the appearance of veracity.

Pathological swindling is a natural outgrowth of pathological lying and is often the realistic acting out of the phantasy.

It is to be hoped that further studies will bring some order into the chaos of the constitutional psychopathic inferior grouping. Included even in the groups that have fairly distinctive constitutional psychopathic markings there are

many instances that have other explanations Kleptomania and pyromania may represent similarly to pathological lying, misconduct that is not proportional to any discernible objective but, on the other hand pathological stealing and fire-setting may be compulsive acts or otherwise neurotic and the result of sexual or other conflict Likewise those highly irritable and arrogant individuals, called pseudo-querulants, who enter into numerous and prolonged legal actions, or if blocked in these directions become slanderous, should not be considered constitutional psychopathic inferiors unless their behavior represents a very long sustained reaction and is as if it were grounded in their personalities Litigious tendencies may characterize phases of almost any psychosis Finally, sexual perversion needs to be very carefully scrutinized before it is labelled constitutional psychopathic inferior since sexual perversion in itself is not indicative of mental disease, though sometimes it may be deteriorative symptom

It is obvious that better prophylactic and treatment criteria must await pathological and etiological contributions At the present writing we can only emphasize the defect nature of true constitutional psychopathic inferiority, inborn or perhaps acquired, organically as in encephalitis or head trauma or emotionally determined as for instance when it may be referred to faulty early environment and training

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CHAPTER X

PSYCHONEUROTIC REACTION TYPES

To write that only 1.7% of mental disease is statistically included under the Psychoneuroses and Neuroses and from this percentage to draw the inference that less than 2,000 individuals become mentally disordered each year because of their influence, can give the student only a very inadequate and misleading conception of the magnitude of this problem. In reality the neuroses constitute the most frequent pathological situations encountered by the neuropsychiatrist. Their frequency is not reflected in statistics, since neurotic patients, although they make up the bulk of the clientele of neurologist and psychiatrist in private and in out-patient practice, nevertheless rarely seek treatment in public mental hospitals. In fact, it is only the occasional patient, whose neurosis becomes so severe and so complicated, that he is judged mentally abnormal according to strict clinical standards. The student should view the problem in the light of its tremendous social significance. Even the mildest cases show in each instance an appreciable diminution of personal efficiency. If it could be reckoned, it would probably be found that the sum total of economic and social liabilities produced by the neuroses would be greater than the amount of damage inflicted on society by the psychoses. Therefore, the student can scarcely afford to neglect this aspect of neuro-psychiatry.

A psychoneurosis is essentially different from a psychosis. The psychotic is profoundly shaken in his whole personality and sometimes disintegrated, there is a deep cleft between self and environment and reality for him is disturbed, dis-

only a partial personality working and on normal contacts remain real and relatively undisturbed. With this we see the psychoneuroses as part reactions, half-way between normal and psychotic, maladaptations to be but, nevertheless compromises that recognize and accept the claims of reality. Finally, from the standpoint of individual capacity to "stand off" detachedly and "look over" survey and judge even if not understand, here, the psychoneurotic overwhelmingly demonstrates his freedom from psychosis.

PSYCHONEUROSES AND PRACTICE OF MEDICINE

Nowhere is the duty of psychiatry toward the practice of medicine, generally and in its specialties, more emphatic than in the consideration of the psychoneuroses. *We believe that functional disease either in its totalities, or frequently as additions to organic morbidity, constitutes 70% of medical practice.* Nevertheless, the "functional" is commonly neglected, misunderstood and improperly treated. We know of no better way of introducing the subject of psychoneuroses, than to attempt to emphasize this important angle of practice, at which psychiatry so constantly intersects medicine, surgery and their specialties.

In order to illustrate some of these points we present case histories of three patients. The histories are reduplicated only from the commonplace by a single merit. They are unusual. They represent a large cross-section, not only of the practice of psychiatry but of the practice of medicine. The general practitioner is not obliged to look for them in the consulting rooms of a psychiatrist. With the proper mental perspective one can find them by the dozens in the offices of the general practitioner, the internist, the neurologist, the surgeon, the gynecologist, the enterologist, the genito-urinary specialist, the laryngologist and others who travel the highway

by-paths of the art of medicine. They teach two lessons. The first is a philosophic one—that appearances are often deceptive, the second is a practical one—that perhaps some revision is needed concerning the values that go into the making of a diagnosis and that subsequently dictate the treatment of the patient.

REPORTS OF CASES

CASE 73. The patient, a man, aged 49, was married, his wife was aged 35, and there were two healthy normal children. At the first interview he was anxious to the point of desperation because, as he stated, for the past eighteen months he had been sexually impotent. Pathetic in his earnestness, he related the steps he had taken to regain potency and happiness, instrumentation by genito-urinary specialists, prostatic massage, general massage, hydrotherapy, electrotherapy and heliotherapy. Then followed a display of faithfully kept copies of prescriptions for endocrine products thyroid, pituitary and testicular. The patient claimed that he was worse. Not only did he have the impotence, but a long train of symptoms, annoying pains and disturbing sensations in the perineum, burning on urination, nocturnal emissions, headache, loss of energy, insomnia, reduction of concentration. The symptoms he described may be found accurately recorded in any patent medicine almanac.

CASE 74. A married woman, aged 42, described chiefly gastro-intestinal symptoms, nausea, vomiting, "sick stomach," anorexia, headache, backache, and dizziness. She came merely for a "friendly conversation" with the psychiatrist, having been urged to do so. She had had two rest cures, numerous gastro-intestinal x-ray studies, had worn special corsets for gastroptosis and was having weekly gall-bladder drainages.

CASE 75. A likeable man, aged 22, who was studying accounting and commerce, managed to get through the first

year with great difficulty. In the second month of the second year, he was ready to "give up the ship" because, he stated, "I am too sick to go on, and, frankly, I should rather quit than flunk. It is no use trying, I cannot concentrate."

He had never been robust. Tuberculosis had been suspected. There was much nose and throat involvement and frequent treatments were needed to shrink down a periodically congested nasal mucosa. He was underweight, and many dietary and rest regimens had been instituted to bring about a gain.

COMMENT

In the barest outlines of surface symptomatology and therapy, there have been presented three common clinical situations. Before stating what is considered as a somewhat deadly parallel of underlying emotional factors, we ask that the conclusions take into account these two premises. First, there is not any intention of implying that measures of physical diagnosis and treatment are not useful and important. The doctrine of keeping the body sound and of correcting promptly its defects and its pathologic processes is well established and needs no brief. Not only is a thorough physical examination a necessary part of every psychiatric study, but in some instances the uncovering of organic disease may be not only very helpful but even life-saving. There is a point, however, beyond which physical diagnostic efforts and therapy may become harmful and even pernicious. This is certainly so if they exclude a consideration of emotional factors, if they are intensively and solely directed at the correction of minor and conjectural physical defects, such as slight deviations of the nasal septum, on the assumption that a minor operation will cure a psychoneurosis, or finally, if they are mistakenly focused on the physical expression of underlying emotional states. A patient with a severe anxiety neurosis was treated for many months for

hyperthyroidism, seemingly because he had a rapid pulse, rather staring eyes and a few vasomotor disturbances.

The second premise is that the statement concerning emotional factors in the patients under consideration is confined purposely to surface psychopathology. Whatever was discovered by a deeper penetration of the psyche is omitted. Nothing is presented that could not be found with somewhat less effort and with a smaller outlay of time than is needed to arrange for and interpret a gastro-intestinal roentgen study.

A brief review may now be made of certain emotional factors that were easily determined in the three patients.

CASE 73. The man with sexual impotence had been dominated far into manhood by an aggressive, positive mother. He was fourteen years older than his wife, whose sex needs were strong, his neurosis began soon after an unsuccessful attempt at sex relations a short time after quite a successful relationship. He thought that his wife seemed irritated and impatient at the failure, because they had often had sex communion twice in a short space of time. The entire situation was so lightly repressed that it was revealed easily at the first interview.

CASE 74. The woman with the train of gastro-intestinal symptoms had little or no sex desire. Sex relations had become for her a painful, unpleasant affair. She concealed her revulsion more or less successfully and tried by various subterfuges to decrease the frequency of the sex act. For some time she had feared that her husband would tire of her and leave her. As a matter of fact, just before the onset of the neurosis her husband had accused her rather pointedly of sexual indifference.

CASE 75. The young student at the first interview readily and anxiously confessed to occasional masturbation. His relief at the opportunity to unburden his troubled and remorseful mind was enormous. It was fairly obvious that

during most of his life he had been tied a bit too tightly to his mother's apron strings and had been excessively warned about "girls." The masturbation had not been continuous from childhood, but had been taken up rather recently following three heterosexual experiences which unfortunately occurred in a setting conducive to fear, embarrassment and feelings of inferiority.

Perhaps it may be thought that there is not much choice between the physical and emotional pictures that we have rather crudely sketched. On the one hand there were the various genito-urinary examinations, gastro-intestinal and gallbladder tests, studies of the nose, throat and sinuses and x-ray pictures of the chest; on the other, a revealing of three emotional conflicts. The first, the physical, dictated a variety of physical therapy, urethral instrumentation, prostatic massage, general massage, hydrotherapy, electrotherapy, heliotherapy, endocrine medication, the wearing of special corsets, gallbladder drainage, treatment of the nose and throat, rest and diets, the second, the emotional, led to a moderate amount of psychotherapy, to the opportunity to talk over troubles that were not physical, to explanation of underlying mechanisms and a frank facing of their implications, to correction of faulty mental attitudes, and to slight adjustments in the environment.

Danger Arising from the Neglect of a Consideration of Psychopathological Mechanisms. From time to time psychiatrists have been warned, and probably rightly warned, of the danger of neglecting possible physical factors. They have made mistakes in this direction, and we believe that they have profited by them. Their mistakes stand out like sore thumbs. If a psychiatrist fails to recognize a tumor of the brain, his error will stand out as an accusation against him until the end of time. Psychiatrists now think that they have a page of experience to present that deserves reading. They are inclined to insist that, injudiciously

applied, the more purely physical, diagnostic and therapeutic measures may do as much harm as they do good if wisely utilized. Indeed, it is known by psychiatrists that, used unwisely, these measures may make and fix a neurosis rather than cure it. We think that practically all modern psychiatrists, conscious of the help they have so generously received from fellow practitioners and without the least intention of decrying wise diagnostic and therapeutic procedures, would nevertheless ask that certain elementary considerations in psychopathology be added to the armamentarium of every practitioner of medicine. They would ask that these considerations be received not as abstract armchair psychology but as real dynamic facts and as factors every whit as actual and important as catarrhal inflammations of the nasal membrane, ptosis of the stomach, bronchial thickening of chest, muscle imbalance of the eye or endocrine dyscrasias and, sometimes as important as the demonstration of the bacillus of Koch in the sputum.

Elementary Considerations in Psychopathology. First, let us make a simple comparison that is more or less valid. Frequently, a practitioner has the experience of observing on the surface a striking symptom, the real reason for which is somewhat hidden and is only accessible to careful investigation, as, for example, the eyeground picture in certain severe varieties of renal intoxication or in tumor of the brain. Thus, also, the reason for many clinical manifestations that seem to be organic and often present definite physical symptoms is not obvious at once to conscious scrutiny. This has been proved so often that it would be pointless to discuss it again. Therefore, if there were no other proofs (but there are many) this alone would be sufficient to ask for belief in the existence of a mind, the content of which is not apparent or evident on the surface, or is not made conscious to the individual or to the observer. Whether this mind is called subconscious or unconscious is not of great moment. Neither does it matter

greatly whether one accepts as a minimum evaluation of the content of this nonconscious mind that it contains in some shape or form traces of everything that has happened to the person during the previous years of his life, or as a maximum evaluation that it is a repository of much more than that, extending back, for instance, into the dim evolutionary history of the human species. After all, the important thing is the acceptance by the practitioner of the fact that there is such a mind, and that probably at least one-half the symptoms he sees in his patients have a subconscious or unconscious origin. If this is true, then there is here a dynamic conception and one should be just as industrious in ferreting out concealed unconscious pathology as in searching for deep-seated organic disease that is far removed from the surface complaint for which the patient seeks relief.

Physicians who regard the bodies of their patients scientifically begin to see things more or less clearly before they have actually happened. If questioned, the physician could not demonstrate these potentials with any exactitude, but he would probably speak of them as tendencies—tendencies to develop heart disease, arteriosclerosis, gallbladder disease, etc. This question of physical habitus or potentials is at the present time stimulating the writing of one of the most brilliant chapters in the art of medicine. Whatever these potentials may be, it is clear that they indicate lessened resistance in certain directions and are possibly sources of danger. So, too, in the hidden mental life of people various trends are formed according to past experiences, and some of these constitute potential sources of danger. For want of a better term one thinks of mental “complexes” instead of innate physical tendencies. A complex may be traditionally defined as a group of ideas held together by a strong emotional bond and demanding expression in the consciousness. Frequently, perhaps usually, complexes are expressed in the conscious everyday life as harmless activities, such as collect-

ing stamps or coins, or even as constructive energies that we devote, for instance, to various philanthropic movements or to worth-while occupational endeavors. There are two conditions at least under which the complex may be harmful. The first of these conditions is that the complex falls too far short of the ego of the person, which in a few words is his measuring rod, a kind of self-criterion of what he should be, the self-ideal. The second condition is that the complex is of such a nature that if it should attempt to express itself directly in action it would at once encounter the censure of society, the adverse judgment of the herd—as, for instance, a homosexual complex. The complex being denied expression in everyday conscious life, the way is naturally paved for the conflict.

If one is able to accept the actuality of the complex as being at least as real as certain somatic tendencies, then of necessity one must subscribe to the reality of the conflict that ensues when complexes run counter to the self-ideal or to the current social code. Conflict, of course, means struggle. Mental conflict, therefore, refers to the struggle or clash between the various and often sharply divergent tendencies of the mind. Desires and tendencies are almost without number, but they fall into three great categories, the ego, the sex and the herd desires, and it does not seem too much to say that at the roots of many clinical physical symptoms there is the warring between the often irreconcilable demands of self, of sex and of society. But these considerations again must go beyond mere interesting speculation. If they are to have clinical and therapeutic application, they must be clearly apprehended. The psychiatrist would be inclined to say that the clinician dare not fail to take cognizance of them. After all there is a choice. If, as in a patient we saw recently, vomiting of such force and character that it led to numerous examinations for tumor of the brain can be due to a conflict between love for a mistress

and duty toward wife and children; if symptoms mistaken for hyperthyroidism in a young broker can be occasioned by the protest of his ego against rather questionable business methods practiced by his firm; if, as in the three patients whose records we have cited, a train of genito-urinary symptoms may be referred to the patient's fear of being unable to meet the sex needs of his wife, a group of gastrointestinal disturbances are caused by an inability to reconcile psychological sex capacity and the desire to retain the regard and protection of the husband or as in the third instance, a clash between mother fixation and the self and herd expectation of heterosexual love leads to such poor health that it is thought to be tuberculosis; and if, finally, it is remembered that these are but a few of the hundreds of situations seen daily by clinicians in which mental conflicts have been converted into physical symptoms, it should be apparent that some appreciation of at least the elements of psychopathology is constantly needed, and that when physical therapy, no matter how skilfully applied, is directed at symptoms with a basis in the mental life of the patient, the result is sure to be disappointing. Indeed one may even go a bit further and say that under such conditions physical therapy not only will be disappointing but will be distinctly harmful to the patient. It provides a definite path of escape from the painful recognition of psychogenic difficulties, and the further the patient is led along this path, the further is he being taken away from the possibility of self-knowledge and adjustment.

A thoughtful internist must frequently reflect on the very great variety and complexity of changes that occur in the physical bodies of his patients in the courses of their lives. Likewise must he speculate on the reasons for such changes. In a broad sense, he feels that, beginning with certain potentials hereditarily determined, there follows a shaping and a molding according to the conditions of life. In any

event, physical surface alterations and phenomena are in a sense a response to somatic inclinations that have in some fashion or another become a significant factor in the body of a particular person. It is not stretching the comparison too far to say that from time to time there result from the contact with the environment certain happenings that definitely influence the future physical history of the subject. For instance, obesity determined by conditions of living may result in a dangerous limitation of exercise, and in the next analysis there may be significant and detrimental changes produced in the entire organic life and structure of the patient. As there is a stream of somatic life, so is there a stream of mental life. Starting in a certain direction, unquestionably the flow is influenced by all the emotional experiences, many of them not at all apparent on the surface. It is particularly those experiences *not apparent on the surface* that are strongly dynamic in shaping the psyche, and likewise they are the origin of the psychopathology which later will come to the surface in puzzling and deceptive forms. Much of the concealed material is accumulated by a process of repression, and repression may be considered as "purposeful forgetting," that is, as a submerging of thoughts to which strong and unpleasant feelings are attached and the implications of which would be extremely difficult to face openly and consciously. Repression is not equivalent to effacement; that fact must be stressed here precisely because many of the symptoms presenting as physical phenomena to the physicians are undoubtedly the distorted peripheral expression of the repressed emotional material.

GENERAL COMMENT

Perhaps we have pursued the comparison of the physical and the psychic too far. It is understood, of course, that physical and psychic are so interrelated that they are not to be separated, but for the purpose of easier understanding it is

useful to make the comparison. One may then think of physical symptoms not only as having a hidden origin in the previous physical experiences of the patient, but also frequently as having a concealed starting point in his former emotional experiences. If a psychiatrist should go to an internist and in good faith ask "what is the most important thing you can tell me that will help me in my work?" the answer might well be, "Be careful that you do not mistake the organic for the functional. If you do, you might erroneously continue to treat organic disease by psychotherapy until it is too late, and the patient has lost his chance for recovery." If the internist should come to the psychiatrist and ask, "What can you tell me from your psychiatric experience that will help me in the understanding and treatment of my patients?" the answer would be about as follows: "Be ever on your guard that you are not misled into treating functional symptoms as organic and thus perhaps fixing for all time crippling psychic invalidism in your patients. If after reasonable study and investigation you cannot find at least fairly definite somatic disease, do not without further thought enter the highly theoretical field of questionable and conjectural therapy involved in endless treatments directed at very minor defects. If the cause of the symptoms is an unsolved emotional problem nothing but a deeper, firmer rooting of symptoms can result from such measures as operations for fractional deviations of the nasal septum, cumbersome apparatus or even surgical operations for slight degrees of ptosis of the stomach, end-
less refractions for somewhat hypothetical imbalances of the ocular muscles, gastric lavage and gallbladder drainage for conditions of the stomach and gallbladder that cannot be substantiated by the usual tests, highly artificialized diets and many other things." The psychiatrist would warn the internist to refrain from entering these therapeutic pathways that so often have a blind end until at least some explora-

tions have been made for factors in the emotional life. Probably, too, the psychiatrist would recall large groups of anxiety states in which a puzzling assortment of vasomotor phenomena simulated organic disease. If they are dealt with solely on an endocrine basis without reference to underlying unsolved conflicts and their resultant emotional reactions, the outcome will not be satisfactory. If, finally, the internist asked for the very minimum of a body of knowledge that would permit the treatment of patients whose symptoms are emotionally and not organically determined, or at least that would enable him to suspect such situations, the reply would be that the very smallest amount of information must at least embrace the following. First, there is a mind whose content is concealed and is not within the horizon of the everyday conscious scrutiny of the patient or of his doctor. Second, the stream of this nonconscious life is significant in determining conscious behavior, and it often contains material or complexes frequently representing the repressed memory of previous highly charged emotional experiences that not only have a driving force but cannot be reconciled to the ego of the individual and the demands of the social code. Third, when a compromise cannot be effected, the conflict ensues, and this may readily be converted into misleading physical symptoms. It is highly advisable for the clinician to subject every symptom or sign for which he cannot find a satisfactory somatic explanation to the criterion of these few and elementary considerations of psychopathology.

We do not wish to indicate that the physical symptoms presented by a given patient must all be either organic or functional in origin. This is not true. Frequently they are both. For every patient whose symptomatology is readily understandable to the clinician there are at least five in whom the symptoms are not at all clearcut. Sometimes the symptoms that are confusing run hand in hand

with those that are readily explainable on the basis of organic disease, often after the resolution of organic disease certain symptoms difficult to explain persistently remain. This is a rather large segment of the practice of medicine. In the wake of any illness, after any surgical operation—even a minor one like tonsillectomy or the extraction of a tooth—after normal childbirth, after trauma and in the diseases of childhood, symptoms frequently arise that cannot be referred to the original disturbance except by a display of mental gymnastics on the part of the clinician that is more interesting than scientifically valid. The reason is obvious. In the majority of cases these symptoms are not organic but functional, that is, they are not somatically but emotionally determined. The frequency of such situations is not at all surprising. The psyche of every human being is to some extent, at least, a battle ground of conflicting trends, desires and emotions. The majority of us, nevertheless, “carry on” satisfactorily enough by a series of more or less adequate compromises. Let there occur, however, a flaw in the armor presented to the environment, perhaps by reason of a physical incapacity, then there are at hand the opportunity and the psychological temptation to ease the conflict by employing the mechanism that converts emotional problems into physical symptoms. The clinical therapeutic moral is obvious.

In recent years the various specialties have become interested in studying psychosomatic relationships. The etiologic role of various psychogenic factors in the production of certain cases of asthma, peptic ulcer, cutaneous lesions and vascular disease has attracted the attention of workers in the field of general medicine, allergy, dermatology, neurology and psychiatry. Stanley Cobb and his associates have made interesting studies of the functional factors and personality types of individuals suffering from bronchial asthma and arthritis. Alvarez and Alexander, working

independently, have noted many functional elements in certain patients suffering from gastro-intestinal disorders. Certain skin disorders of the allergic type have been shown to be influenced by suggestion and the possible etiologic role of the functional elements in the allergies offers an interesting field for future research. This phase of medical knowledge is still in the investigative stage but serves as an added emphasis to the much discussed need for a complete psychobiologic survey of every ill human being irrespective of the nature of his disorder. There is an urgent need for more of these studies. Carefully controlled investigation of the possibility for altering normal physiologic processes by suggestion or willful productions of conflict and mood variations is needed. Since all individuals living in this modern competitive world must necessarily show some conflict, some anxiety and some degree of difficulty in adjustment the mere discovery of such elements in an individual afflicted with somatic disease is insufficient proof of their importance in the etiology. Neither is the fact that a temporary or minor alleviation of the symptoms of the disease is produced by psychotherapy in itself a proof that the psychogenic factors play more than a contributory role. We believe that a future knowledge of this phase of medicine, commonly referred to as psychosomatic medicine, must be based upon more detailed study made by a collaboration between the psychiatrist, the internist, the physiologist and the chemist.

ETIOLOGY AND PATHOGENETIC CONSIDERATIONS

The psychoneuroses are statistically at such an alarmingly high level and they are economically and socially so damaging that they deserve consideration from the standpoint of general factors that may possibly influence their incidence. Do such favoring factors exist in our present plan of civilization? From a broad, philosophical perspective a psycho-

neurosis is a protest of the individual against being engulfed into the mass. This is all the more pertinent since civilization especially in the great urban centers is highly standardized not only in the daily occupation and routine of the masses but, in the manner of living, houses, clothes, food, diversions, etc. Thus, the individual unit unconsciously feels belittled and inferior. Sometimes this inferiority is consciously expressed. In a married woman of 35, one of our patients, the anxiety symptoms were greatly increased when she and her husband lived in a huge city apartment house during the winter months. At other seasons of the year when she lived in the country, she was far less neurotic. Attempts to compensate for inferiority feelings probably are prolific sources of psychoneurotic trends. The Jews, an extremely neurotic people, often have a feeling of racial inferiority. Again, civilization is complex, intricate and very material. It is so arranged that the normal satisfaction of the natural instincts, those deep sources of energy must often be deferred, inadequately realized and sometimes altogether abandoned. Since, they must come to some kind of expression, it is not surprising to find various pathological and neurotic subterfuges. Here are a few of the reasons why the psychoneuroses flourish and multiply in the soil of somewhat artificial civilization.

The organic aspects of the psychoneuroses should not be neglected. Myerson is a good exponent of the physiologic approach. He writes "This approach (the physiologic) to psychiatry and its problems must go logically even further. It must state that there is no separation between the organic and the functional diseases except as a matter of convenience. If I experience fear and, as a result, I become the victim of a psychoneurosis, there is no phase of the experience which cannot be rigidly linked up with the organic world. The object of the situation which evoked the fear is organic. Physical agents of well-defined type, such as light waves,

sound waves, chemical emanations which evoke the sense of smell are organic. Emotion is largely the thalamic, vasco-visceral, motor reverberation of an event. All the past experiences of the individual have been organic, and their effects, whether transitory or permanent, were organic.

"Even though we gain no insight into the actual causation of a neurosis by the study of the physical symptoms which accompany it, we are enabled to understand the clinical picture better. We may ask of a mental state, in how far does it disturb bodily function, the great organic machinery of the body? And since it is true that a mental state may alter digestion (by this theory it is in part altered digestion) it is perfectly conceivable that by altering the digestion, we may in turn change the mental state, or, at least, hasten the resumption of equilibrium. In the circle of events which is the relationship of mind and body, therapeutics applied at any point may alter the entire circle." It is, of course, true that emotion is at once registered in the physical expression pattern, reverberates in every cell of the body, and that functional disorder of organs may result. It is true, too, that sometimes a frontal physiologic-pharmacologic attack on the badly working organ or organs may interrupt the revolution of the vicious circle. Nevertheless, in the present state of our knowledge, psychogenetic concepts are the more fruitful. This does not absolve the psychiatrist from the responsibility of a thorough physical examination. For the past seven years, in the out-patient neuropsychiatric clinic of the Pennsylvania Hospital, where one-third of the patients are psychoneurotics, it has been our custom to conduct extensive routine physical and laboratory examinations in every case, even when the issue seems obviously a psychological one. In almost 50% there is evidence of definite somatic disease. The following morbid conditions are constantly repeated in our statistics, endocrine dysfunctions, tuberculosis, lues, extensive apical abscesses, organic heart disease

often with beginning decompensation, post-influenzal states, arteriosclerosis, anemia, combined heart and kidney diseases, osteo-arthritis, sinusitis, infected tonsils, extreme visceroptosis, chronic Neisserian infection, nephritis, chronic appendicitis, suppurative otitis media, prostatitis, gastric and duodenal ulcer, early gastric carcinoma, lead poisoning, floating kidney, etc. It is *not* a question as to what degree these pathological conditions were instrumental in producing a neurosis or even whether they were influential at all. Such morbidity is to be found on careful examination and *therefore careful examination becomes a matter not of belief but of conscience and medical ethics.* Adherence to any particular doctrine does not remove the responsibility for determining the actual physical status of the patient. The only effective knowledge is the kind of knowledge that is derived from a thorough analysis of the patient, his symptoms, his history and his setting in life—a psychological analysis—a physical analysis and an environmental analysis. There is no royal road nor are there any short-cut to a proper understanding of the neuroses.

The student must realize that an introduction to psychiatry is not the place to give in detail, the discussion of the many theories which have been advanced concerning the etiology of the neuroses. He will be repaid by reading at least a selection of the many authorities who have written on this subject. The authors wish to avoid the temptation of attempting to crystallize the student's thoughts about a phase of psychiatry which offers such fascinating material for independent research and interpretation. It may be remarked that the very divergence of opinion is an argument, at least, for the temporary adherence to what might be termed the doctrine of etiological non-specificity. He will then regard each individual patient as a new riddle to be solved and while taking full advantage of information acquired by others, yet he need not limit himself to a single

mode of procedure. In this way diagnostic measures are less likely to be restricted and important dynamic factors, physical, psychogenic and environmental are less likely to be overlooked.

HYSTERIA

Charcot, the master mind which brought order into the chaos of clinical neurology, failed to comprehend the problem of hysteria largely because it could not be successfully attacked by the method of systematization and classification. He concluded it was a degenerative state largely due to inheritance. Hereditarial links have been found to connect hysteria with schizophrenia, epilepsy and psychopathy. Rivers and MacCurdy believe that educational deficit may determine the naivete of hysteria, in that for instance, gross signs like a paralysis are readily accepted as valid by the patient. In this connection it is interesting to note that during the war hysteria occurred preponderantly in the soldier and anxiety neurosis in the officer.

Bernheim and even more emphatically Babinski were convinced that hysteria was entirely a question of suggestion. Babinski discarded as non-hysterical any sign or symptom that could not be produced by suggestion or removed by persuasion.

Binet felt that the mechanism of hysteria depended on a condition of double consciousness, practically two independent states separated by amnesic periods. Janet described hysteria as "a mental disease belonging to the large group of the diseases due to weakness, to cerebral exhaustion; it has only rather vague physical symptoms, consisting especially in a general diminution of nutrition, it is above all characterized by moral symptoms, the principal one being a weakness of the faculty of psychological synthesis, an abulia, a contraction of the field of consciousness manifesting itself in a particular way; a certain number of elementary phenom-

ena, sensations and images, cease to be perceived and appear to be suppressed by the personal perception, the result is a tendency to a complete and permanent division of the personality, to the formation of several groups independent of each other these systems of psychological factors alternate, some in the wake of others or coexist, in fact this lack of synthesis favors the formation of certain parasitic ideas which develop completely and in isolation under the shelter of the control of the personal consciousness and which manifest themselves by the most varied disturbances, apparently only physical " It will be observed that the essence of Janet's conception is the doubling of personality. Freud with Breuer, published his viewpoint in 1895 Briefly hysteria, for instance, is due to psychic trauma Painful ideas, usually with sexual content and which for the particular individual are unacceptable to the conscious mind are not given an emotional outlet but are relegated or forced or repressed into the subconscious mind and become buried complexes Such repression often takes place during childhood Later, these buried sexual complexes are "converted" or rather the affect with which they were associated is converted into a symbol which is objectively evident as an hysterical symptom To quote, Freud: "1. The hysterical symptom is the memory symbol of certain efficacious (traumatic) impressions and experience 2. The hysterical symptom is the compensation by conversion for the associate return of the traumatic experience 3 The hysterical symptom—like all other psychic formations—is the expression of a wish realization 4. The hysterical symptom is the realization of an unconscious fancy serving as a wish fulfillment 5 The hysterical symptom serves as a sexual gratification and represents a part of the sexual life of the individual (corresponding to one of the components of his sexual impulse) 6 The hysterical symptom, in a fashion, corresponds to the return of the sexual gratification which was real in infantile life but had been repressed since then 7. The hysterical

symptom results as a compromise between two opposing affects or impulse incitements, one of which strives to bring to realization a partial impulse, or a component of the sexual constitution, while the other strives to repress the same. 8. The hysterical symptom may undertake the representation of diverse unconscious non-sexual incitements, but cannot lack the sexual significance " The mental symptoms of hysteria are explained on the basis of "elaboration and development of hypnoid states or erotic day dreams "

Déjeune stressed the underlying emotional genesis of all the psychoneuroses and in hysteria he delineated a "peculiar emotional constitution" consisting of a tendency to over-react to emotional stimuli, a reactivity in one organ or a group of organs, the dissociation of the mental representation of the function from the seat of consciousness and the passivity or indifference of the patient concerning the disassociated function.

So that the student will not become involved in the mazes of theoretical discussion concerning the etiological possibilities of the hysteria mechanism, we will lay down a very simple premise It is to the effect that a psychological situation which is unresolved becomes converted into certain phenomena which may be discovered objectively and which constitute the hysteria syndrome Even this simple premise may be objected to, so great is the divergence of opinion We purposely refrain from discussing the nature of the situation, whether or not it need fulfill the Freudian requirements to produce hysteria, the exact mechanism by which the conversion is accomplished, the role of suggestion and of physical factors All these much mooted questions are not within the scope of this work The student should learn to recognize hysteria and then he will be stimulated to pursue this fascinating subject by study and research

Our simple premise seems justified by experiences with the war neuroses, among which conversion hysteria was the outstanding example Neuro-psychiatrists who served at

the front and saw hysteria in its developmental stages, while it was still "warm" as it were, at least were able to reach common agreement about a few facts. These were, that broadly hysteria was a more or less unconscious effort to escape from an intolerable situation, and that "escape" was accomplished by a mechanism which showed as its end result certain objective disabilities which, as long as they endured made impossible a return back to the intolerable situation. The clinical nature of the cases, and particularly the nice adjustment and agreement between situation and presenting symptom or symptoms (deprivation of hearing after listening to the cries and groans of the wounded; of sight after witnessing gruesome horrors, of smell after being detailed on burial parties, paralysis of the arm which had bayoneted the enemy, amnesias for frightful experiences) which, at times, were obvious, made for unanimity of opinion concerning this point. It is, of course, true, that neuropsychiatrists disagreed about many details. For instance, for some, the conflict which arose between patriotism, soldierly ideals, demands of society, etc., and the instinct of self-preservation was not alone operative and they felt they were able to trace other and more basic conflicts, including sexual ones. Others believed, that the conscious mind entered into the conflict at some point and that the result was partly determined by conscious thought, though none went so far as to wipe out the distinction between hysteria and malingering. Physical factors, notably fatigue and concussion were held by some to be highly important and determinative. However, in spite of these and other discords of belief, there remained the almost universal conviction, that there was always a psychological difficulty, conflict or impasse and that this was translated by a series of steps (psychologic, somatic or combined) into hysterical symptoms, designed to protect the individual, and indeed, to remove the very possibility of the recognition of the real

difficulty. This much, the student may safely take with him when he studies hysteria in civil life

COMPULSION NEUROSES

For Janet there were only two psychoneuroses—hysteria and psychasthenia. The latter included both neurasthenia and compulsion neuroses. His etiological explanation of these was a generalized "lowering of psychological tension." Freud taught that the affect is dislodged from the thought of the buried complex by a defense reaction and an unconscious substitution process attaches it to an innocuous idea. The compulsive idea, then, is a safeguard against the appearance in thought of the repressed cause. Certainly, it does seem true that in the mechanism of obsessive and compulsion symptoms there is the operation of displacement, substitution and symbolism. We have expressed it in this way: Originally there is a union in consciousness between an idea or the remembrance of it and painful emotions it induces, the union is dissolved and the original idea banished or repressed into mental strata below the level of consciousness, the free emotion or affect from which the idea has been dislodged is joined to a new and innocuous idea in itself not painful. The original idea continues to try to push back into consciousness and, the neurotic symptoms arise whenever there is danger of it being remembered. Ross utilizes in his hypothesis, the conditioned reflex of Pavlov. The secondary stimulus becomes associated with the primary one and is capable of producing disturbances without producing conscious memory of the original situation. These disturbances are the patient's evidence of disease. A soldier is afraid of thistles to the point of developing neurotic symptoms when he sees them. He cannot account for it. Analysis reveals that during the war, he had experienced intense fear while lying under a thistle bush trying to hide from enemy snipers. Meyer writes of a "lowering of general interest and tendency

to rumination of what is accessible to the patient in his memory, but is not squarely met, and where the normal reaction is replaced by rumination, substitution acts and panics "

NEURASTHENIA AND ANXIETY NEUROSES

The explanations that have been advanced particularly of neurasthenia are legion. They include overwork, auto-intoxication, auto-suggestion, etc. None of them are satisfactory. Déjerine traces the following course of determining events, mental and physical disturbances directly traceable to the emotional upset, next there is conscious reflection or a kind of survey of these disturbances, then erroneous conclusions are drawn concerning the sources of these disturbances, the patient suggests disease to himself and finally, functional derangements come into existence.

Freud's neurasthenia, strictly speaking, is not the neurasthenia of other writers. The "nervous exhaustion" symptoms of his neurasthenic complex or syndrome are occasioned by excessive masturbation in adult life and the incompleteness of the sexual satisfaction. Anxiety neuroses are more common in women and are attributed to coitus interruptus or ejaculatio precox, in men to abstinence, frustrated excitement, coitus interruptus or senile conditions. Non-sexual stresses may be operative. The mechanism consists in a "deviation of the somatic sexual excitement from the psychic and in the abnormal utilization of this excitement occasioned by the former."

We have attempted to formulate a simple conception which may have some bearing on the genesis of neurasthenia and on some of the syndromes that are included under the anxiety states. We believe that the fatigue, which is such a prominent symptom is not the fatigue of physical tire, overwork, etc., but results from mental cross purposes. Being defeated by personal problems whose origin and nature are almost

totally misunderstood by the patients, they naturally feel unable to tackle other problems that deal with the world outside themselves. Often such individuals hold out as long as a parent or the surrogate for a parent acts as arbiter and helper in many of the important problems of life. When such support vanishes, there is often defeat. They turn from the activities of daily living to a morbid interest in their own bodies. The mind turns inward. There is introspection into such perfectly normal sensations as the peristaltic movements of the intestines, which in health are automatically disregarded. Such sensations become substitutes for unfaced problems.

One of our patients was very neurasthenic. He had battled so long that he was physically tired. When he came to us he had written out a long list of physical sensations with various organic implications appended. Actually there was a life long but unrecognized feeling of inferiority. There was the handicap of disproportion between desire and capacity. To keep ahead of this handicap he threw himself violently into all sorts of endeavors—intellectual, educational, social, and religious. Finally, wearied by the one-sided struggle against an unknown *Something*, he developed a long train of physical symptoms. He tried to do too much, accomplished still less, and was very dissatisfied with himself. Eventually through a thorough consideration of his reactions to life problems as he had met them from school age to adulthood, it finally dawned on him what he had been trying to overcome and how useless a fight it was. With this realization, and with a clearer consciousness of his capacities and limitations, he rearranged his life, and the symptoms vanished.

Another man came to us, after a long series of genitourinary treatments and manipulations and with a remarkable list of prescriptions calling for various ductless gland preparations. He had taken them all very faithfully. The last

specialist he saw told him to consult a neurologist. We have never heard a more exhaustive and detailed description of sensations referred to the genital zone. A few talks brought to light the fact that his wife was very strongly sexed and passionate and that he had a strong, unconscious fear that sooner or later he would fail to satisfy her sex needs. After understanding and explanations, the symptoms vanished.

Neurasthenia and some of the anxiety states appear after the patient has had a long battle with self. Usually they are not recognized until they are well developed and, then the problems that occupy the patient are not the real ones but substitutions usually in the shape of bodily sensations due to functional disorder.

How does this come about? If a laboratory animal is frightened or angered certain physiological disturbances are produced. In the cat for instance one may see such gross phenomena as the arching of the back, hair standing on end, dilated pupils, spitting, etc. Much more is going on inside the body. The cardio-vascular apparatus is energized into much greater activity, and the blood pressure is raised. This increases the metabolism of the muscles. The increased pressure not only supplies blood to the muscles and organs more effectively, but also sends a larger supply to the brain where quick decisions must be made. Certain of the endocrine glands, perhaps particularly the adrenals participate in the production of increased blood activity, and pressure, and even shorten the clotting time of the blood. The liver discharges more sugar into the blood, so that the muscles have sufficient fuel for the mobilization of their energy. Respiration is more rapid. Stomach and intestinal movements are at a minimum. In a few words the net result is an adequate physical preparation for fight or flight with a mobilization of those parts from which there will be a strong demand for work, as for instance the muscles

and a cessation of functional activity in those viscera like the intestines, the activity of which would only hinder and impede fight or flight

It may be objected that, after all, human beings are not cats and there are no "fierce dogs" in our world. But the objection is not valid. Human beings are affected by pain, fear, anger and other emotions just as the cat is, sometimes we are subjected to the same physical frights, and the same reflexes described in the cat are initiated. Now and then, instead of quieting down after the fright is over, the reflexes remain. Hyperthyroidism, a condition in which the heart persistently beats very rapidly, the eyes become very prominent, the hands become shaky, and the patient feels continuously nervous and easily startled, may arise in this way. These patients have the appearance of frozen-fright, or graven fear, i.e. they have always the facial expression of fear, although they may not feel afraid. We recall two cases in which such states originated, one from the terrifying experience of a shipwreck and rescue at sea, and the other from a horrible automobile accident.

We had a patient who was with her husband, a naval officer, stationed at Haiti during the uprising of the natives. One day while she was in the interior of the island, she walked into the living room and found a poisonous reptile coiled under the table. Later in the day she opened a closet and a tarantula started out toward her. That same evening there was a shooting affray in front of the house. Immediately, she stiffened into a state of "frozen fear." She was brought back to the United States and for six months was mute, did not eat, had to be fed through a tube, and, when placed upon her feet, she would collapse to the floor as though her knees were made of water.

It is true that most of the shocks we encounter in the present stage of civilization are not as physical, acute or

dramatic as the fright of the cat, but the emotions engendered in us are, if anything, the more devastating. Human beings stand a single mental shock relatively well, even if it is severe, as, for instance, the drowning of an only son. It is the series of shocks or a long continued single emotional strain like worry or apprehension that finally breaks us. Such tiring and destructive emotional stress may be due to a prolonged struggle with difficulties and problems which we are not meeting in a straight-forward manner. Long drawn out fear, anger, shame, resentment, or other intense emotion, may produce an increased heart rate, the alterations in the activity of the gastrointestinal functions, just as fear did in the instance of the cat. If these reflexes become established, they tend to keep going even after the original situation has disappeared. They are like the toy that must go until the spring unwinds. Human beings, however, may be wound up as fast as they are unwound—that is, the situation remains. Thus, anxiety, states of intense fear, worry, agitation, and loss of control may dominate almost every waking hour.

Is it thinkable that such situations can arise in the midst of the culture and refinement and material ease and protection of modern life? Not only conceivable but exceedingly common! Here are a few taken at random from our practice. Think of the fear of the woman who has reason to believe that her husband is no longer in love with her and may at any time leave her for another, and this at an age when she is no longer able to shift for herself. Or the young girl who is carrying on secretly a questionable love affair. Or the worry of parents at the degradation of a son or daughter. Or the state of mind of the wife who is carrying on an illicit love relationship. Or the haunting fear of poverty. Or think of the man, getting on in years and with a large family to support, who lives in fear of being displaced by a newcomer in the business organization. These and

many similar situations are anxiety producing. In this type of reaction the individual is still fighting and aggressive. His symptoms are part of his endeavor to overcome the difficulty. If the physiological state, or the reflexes and sensations continue long after the inciting conditions exist, the patient loses his aggressive attitude, and finds his world consisting mainly of these residual sensations.

In this connection the following summary based on an analysis of 239 psychoneurotics is of interest.

1 Psychoneurotic predisposition is determined to some extent by.

- (a) Unfavorable early home life (70% of cases)
- (b) Constitutional predisposition (85% of cases)
- (c) Chronic disease, sex conflicts, financial difficulties, restricted outlets, and mental defect, play a leading part in from 3% to 12% of all cases

2 The most common precipitating factors in the psychoneuroses are

- (a) Sex disturbances, including conflicts over masturbation, illicit intercourse, puberty, and the menopause, 22%
- (b) Accidents, with or without injury, 13%
- (c) Marital crises, 12%.
- (d) Financial crises, 11%
- (e) Operations, 10%
- (f) Death or illness in the family, each 9%.

3 The commonest physical findings are.

- (a) Operative scars, 23%.
- (b) Focal infections, 9%.
- (c) Physical defects, including developmental anomalies and operative amputations, 9%.

4 The commonest mental findings are:

- (a) Overconcern expressed regarding the symptoms complained of, 89%.
- (b) Anxiety, 45%

(c) Fears, including fear of disease, death, insanity, etc., 33%.

(d) Marked hypochondriacal trends, 19%.

5. The most frequent characteristics of pre-hospital treatment are:

(a) The patient had been seen by many physicians in 34% of the cases

(b) Operations were resorted to in 19%

(c) Sedatives had been employed routinely in 15%.

(d) Quacks of various kinds had been consulted by the patient in 10%

Classification. The classification of the psychoneuroses is far from complete, which is satisfactory enough for the present, since it represents a state of flux awaiting additional knowledge. Freud includes "irritable weakness" or neurasthenia; anxiety states embracing "anxiety neuroses" and "anxiety hysteria", hysteria; obsessive and compulsive psychoneuroses. Ross puts forward the suggestion that all neuroses represent faulty responses to difficulties or attempts to escape: (1) *By overreaction* resulting in neurasthenia including the anxiety neuroses and anxiety hysterias of many writers; (2) *by under-reaction or failure to react at all* resulting chiefly in conversion hysteria, (3) *by pretending that the difficulty does not exist* resulting in the compulsion neuroses. We shall employ a very simple classification, hysteria, neurasthenia, compulsion neuroses and anxiety neurosis.

SYMPTOMS OF HYSTERIA

The symptoms of hysteria are presented in tabular form with brief explanatory notes

Sensory Symptoms.—Hyperaesthesias, hypoaesthesias, anaesthesias and paraesthesias. They are clearly distinct from the sensory signs of organic nerve disease since they are not confined to areas within the dominion of either

central or peripheral nerve structures, they are changeable and, often may be moved or removed by suggestion, they are sharply delimited ("glove," "stocking") and do not shade off into normal territory as in organic lesions. In the field of the special senses there may be concentric diminution of the visual fields, blindness, hyperacousis, deafness, anosmia, loss of taste, etc., the visual defects and particularly the blindness is paradoxical, one of our "blind" patients always recognized a match when passed before the eyes. Totally blind hysterics commonly avoid obstacles in walking. The pupillary reflexes and eye muscle movements are not affected. Sensory deprivations are often strikingly protective. During the war there were many instances of hysterical blindness following the sight of a comrade soldier's head being blown off by a shell, deafness following a period of being forced to listen to the cries and groans of the wounded; loss of the sense of smell after a burial detail, etc.

Motor Symptoms.—Paralyses of all varieties, flaccid or spastic sometimes with contractures, abnormal movements, clonic, choreiform, tics, tremors, pathological postures and gaits, astasia-abasia, rhythmical movements of various parts of the body, head noddings, rotations, bizarre attitudinizing, convulsions. Paralyses with rapid atrophy and vasomotor changes are sometimes so striking that the French neurologists have attempted to differentiate them from true hysteria and have given them a separate grouping, half-way between organic and functional disease, under the name of "Reflex Paralyses." Perversion or loss of special function such as mutism and aphonia. In general the paralyses of hysteria are deficits of a function or whole part like an arm rather than of the musculature in the territory of central or peripheral nerves; they are non-explainable on any organic basis; efforts to move the affected part usually results in spasm of antagonistic muscles; reflexes are not disturbed as in organic disease nor are pathological

reflexes, particularly the Babinski present, there is no R. D. suggestive treatment may remove the palsy. In mutism and aphonia, the absence of any real paralysis of tongue and lips, the complete loss of function, the normal adduction of the vocal cords on inspiration, the absence of the other signs of organic nerve involvement and frequently the prompt disappearance of the symptom following suggestion all proclaim the functional nature of the disability. The tremors are usually coarse, involving whole parts and are made worse by attention and examination. Astasia-abasia is the inability to stand or walk despite the absence of paralysis. One of our patients in bed could make successfully muscular movements with his legs against very strong resistance, but when placed on his feet and asked to walk, at once he crumpled and fell to the floor.

There are vasomotor-trophic symptoms of various kinds, coldness, cyanosis, dermatograpia and an occasional well authenticated instance of bleb formations has been reported.

Somatic Symptoms—A host of general and particular somatic symptoms have been observed: headache, globus, hiccough, excessive appetite, vomiting, amenorrhea, anuria, flatulence, constipation or diarrhea. Commonly hysterical vomiting occurs without nausea. All these phenomena and many others must fail of organic significance if the parts involved are thoroughly tested. So-called "Anorexia Nervosa" may reduce the patient to such an extremity, that he may fall an easy victim to some intercurrent disease, like tuberculosis.

Mental Symptoms—Here we consider amnesias, fugues, somnambulisms, trances, dream states, hallucinations, deliria, stupors, convulsions, and double and multiple personalities.

Amnesia is apparently a successful subconscious effort to keep something out of the field of consciousness. It may extend for a considerable period of time before and beyond a particular incident or experience. There were many exam-

ples like the following one observed in the World War. A young soldier was brought into the triage hysterically blind and amnesic. The "recovered" remembrance showed that while charging across a wheat field with his Company he had seen a "buddy" blown into pieces by a shell. The amnesia covered the time from the order to charge to his arrival at the triage, a period of about 36 hours. A *fugue* is a span of time for which the patient is amnesic, though, often, during the fugue his actions are such that it seems to the observer that he must be conscious of his surroundings. A young physician practicing in Virginia turned up on my service in a Philadelphia Hospital with a complete amnesia for a segment of his life, covering almost two weeks. He remembered making calls in his car in his rural practice and next he "came to" with feelings of alarm and anxiety in a Philadelphia hotel thirteen days later. It appears that he had driven from Virginia to Philadelphia, consuming almost three days in the journey, had gone to a hotel, remaining there for ten days conducting himself as far as could be determined in a normal and natural manner. He was very unhappy in his marital life but loved his wife deeply, although they were completely unadjusted in their sex life. *Somnambulisms* are related to amnesias and fugue states and to the sleep walking of some children. Sometimes it is possible to engage a somnambulist in conversation and discuss the nature of his experience. A somewhat neurotic woman in middle life frequently sleepwalked. On one occasion she dashed from her bed and tried to walk out of a window on the fourth floor of a Paris hotel. She was restrained with difficulty and, still in her "sleep," she insisted vehemently that she must "get out" of the "covered wagon" since the horses were "running away." *Hallucinations* have been explained on the basis of partial failure in attempting to submerge a disagreeable complex, the remnant remaining as an hallucination. *Double*

and multiple personalities have been intensively studied by Morton Prince, James and others. The fugue, amnesic period, etc probably have a content which is not acceptable to ordinary personal consciousness and therefore there is acquired a kind of new consciousness, constituting a second personality. *Convulsions* or *fits* are fairly frequently seen, though the full fledged convulsion so often described in Charcot's time is not so common. Abortive and partial convulsive seizures are usually not difficult to distinguish from epilepsy. The fit usually occurs in the presence of an audience, true unconsciousness is doubtful, the patient seems to observe the environment from "the tail of her eye," there are no serious injuries, control of the bladder and bowels is rarely lost, the convulsive movements are more irregular and bizarre and have been thought to be sexually symbolic, the patient does not show the typical post-epileptic stuporous state and indeed, may soon be bright and alert, and finally, the setting is highly emotional. Sometimes, the fit is difficult to diagnose. A young woman, who had innocently acquired syphilis (there is no evidence at all of neuro-syphilis) five years ago, among other hysterical phenomena, frequently had fits.

During a typical attack she would utter a strangling cry, straighten out in bed, become rigid for a moment, twist in a few convulsive spasms, froth at the mouth and, apparently, stop breathing. There would seem to be a period of complete apnoea lasting about a minute, during which the heart beat normally. After respiration began again she would appear to be confused for about twenty minutes, said she did not remember what she had said and was completely relaxed.

In general the mental symptoms are indicative of the dissociative nature of this psychoneurosis, as if, a small and split-off portion of mental life, continued to function in an unrelated and detached manner

This type of reaction in hysteria is probably most clearly seen in the amnesic (somnambulistic or fugue) states. In these reactions we find consistently a history of early personality trends suggestive of the hysterical reaction. These personality characteristics include a more or less consistent tendency to evade difficult situations through complaints of physical illness or loss of function, a manic or hypomanic emotivity, hypersuggestibility, with a history of sleep walking or talking, fainting spells, paralyses, anaesthesiae, or other sensory losses, for brief periods of time. The escape from the intolerable situation, with phantasy or reality satisfaction of conflicting desires, takes place during the period for which the amnesia develops. The amnesia itself protects the individual from the necessity of facing consciously this violation of ideals. The *conflict* is thus *converted* into a *mental symptom* which manifests itself as a *loss of memory*. The essential usefulness of this reaction is evident. This is what Freud refers to as the "gain through illness" and should be kept in mind when studying or treating psychoneurotic patients.

From our records the following seven instances of hysterical amnesia are selected for presentation in tabular form (pp. 546-550).

Such periods of amnesia may resemble the amnesic states that occur in connection with organic brain disease (trauma, arteriosclerosis, paresis, etc.) or with idiopathic epilepsy. The table on pp. 551-552 presents criteria for differential diagnosis.

Two cases are presented to illustrate some of the clinical manifestations of hysteria.

CASE 76. Hysteria.

Jessie B., a white woman of 45, was admitted to the hospital December 11, 1928, with a complaint by her husband that she "claims that she can't walk." This illness had started in February, 1927, when the family was moving

Case	Sex	Age	Occupation	Predisposing factors	Precipitating factors	Activity during amnesic period	Psychological content	Treatment	Results
1. S B	P	35	Teacher housewife	Hysterical personality type Engagement to man with colored ancestor Marriage to man inferior to herself In creasing responsibilities due to increase of family	Extramarital love affair with contrast between present status and possibility of better life adjustment Termination of this affair Financial stress at home	Ordinary routine affairs as well as walking about streets with no memory for activities Duration 1 to 3 hours	Phantasies of love scenes with extramarital partner, especially formation of home and better social adjustment and love scenes with caressing and intercourse	1 Reconstruction of amnesic period by free association methods 2 Aeration of conflict material with frank discussion of present adjustment. 3 Re-education in meeting her problems more directly with encouragement in facing the present situation and making the best of her present opportunities 4 Constructive socializing program with increased recreational outlets	Recovery from tendency to amnesic periods with complete absence of conversion symptoms for a period of 2½ years

2	E L	M	41	Farmer	Hysterical personality type Dependence on family and unstable marital adjustment	Conflict with wife over sale of property Conflict between family and marital attachments	Trip from home to town in which purchaser of brother's property lived with failure to locate this person, and return home Complete amnesia for entire period	Attempt to dis- 1 pose of property against wife's wishes in order to imitate the brother's property sale 2	Reconstruction of amnesic period by free association methods 2 Frank discussion of mechanism of the amnesia with desensitization of patient to family situation 3 Re-education in meeting difficult situations	Improved after 3 days hospital treatment followed by subsequent recovery Maintained for period of 1½ years
3	J L	M	36	Auto mechanic	Hysterical personality type Carbon monoxide intoxication 10 years previous	Financial difficulties Change in living conditions and occupation	Drawing and repairing automobiles Wandering about city streets Complete lack of memory for amnesic periods over several years	Not completely reconstructed Vaguely associated return to previous occupation and previous financial status 1 2	1 Attempted reconstruction of amnesic periods by free association methods 2 Frank discussion of conflict material with explanation of mechanisms of the amnesia 3 Re-education in meeting difficulties more objectively	Recovered after 15 days of hospital treatment Recovery maintained for 1½ years

Case	Sex	Age	Occupation	Predisposing factors	Precipitating factors	Activity during amnesic period	Psychological content	Treatment	Results
4 H H.	M	41	Contractor	Hysterical personality type Incompatibility with marital partner Difficulty in raising children due to inconsistent discipline	Conflict with wife over placement of children in his business Patient refused to employ children because they were inefficient Forced to do so by wife's attitude Financial difficulties	Amnesic period of 30 hours Walking about town Failure to pay employees Carried tools to railroad station and bought new clothes and suitcase	Frank escape from what he considered an unbearable marital situation and financial obligations which he thought he could not meet	1 Reconstruction of amnesic period by free association methods 2 Frank discussion and aeration of conflict material with explanation of mechanism of amnesia 3 Re-education in more objective meeting of difficulties	Apparently recovered after 3 days of hospital care. Present status unknown
5. P K	F	21	Housewife	Hysterical personality, worry over mentally defective siblings Conflict over adequate sex adjustment to husband Inability of husband to	Birth of child with increasing responsibility	Phone calls to physician giving names other than her own, telling him about conditions of her friends and calling him out to see them On one occasion phoned doctor	Love phantasy with physician and desire for repeated intimate contacts similar to those during pregnancy and labor but on different basis	1 Reconstruction of amnesic period by free association methods 2 Complete aeration of all conflict material with explanation of hysterical mechanisms	Marked improvement after two weeks in hospital with increased improvement following discharge for period of six months

6 L U	M	17	School-boy	<p>emancipate from home. Financial stress</p> <p>Hysterical personality type Feelings of physical inferiority due to difference in stature between himself and brothers, well compensated by physical activities prior to present illness</p> <p>Marked emotional attachment to brother's wife</p>	<p>Pregnancy and delivery of sister-in-law</p> <p>Operation for appendicitis</p> <p>Deprived of athletic outlets during post-operative convalescence</p>	<p>"Wild episodes in which he exerted super-human strength and did things beyond his physical ability"</p> <p>Fighting with several men.</p> <p>Drove automobile 90 miles in 90 minutes over country road</p>	<p>she had broken her leg Had no memory for these episodes</p>	<p>Dramatic phantasy in which patient was fighting men much bigger than himself and defeating them</p> <p>Assertion by himself and material</p> <p>3 Re-education in meeting difficulties objectively</p> <p>4 Construction of socializing and physical health program for patient after leaving hospital</p>	<p>3 Re-education with complete reconstruction as to sex adjustment, re-education of husband in sex, re-education in facing actual problems of life more objectively</p> <p>1 Reconstruction of ant-nesc period by free association method</p> <p>2 Aeration of conflict material</p> <p>3 Re-education in meeting difficulties objectively</p> <p>4 Construction of socializing and physical health program for patient after leaving hospital</p>	<p>Recovered with good insight after 22 days in the hospital. Recovery has been maintained for a period of 2 months</p>
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Case	Sex	Age	Occupation	Predisposing factors	Precipitating factors	Activity during amnesic period	Psychological content	Treatment	Results
7 F M	F	31	Housewife	Hysterical personality type Mother died when patient was 7 years old Early home life unstable Cruel father, over-solicitous relatives with oversuper- vision Pre-marital intercourse Marriage to escape from home	Extra-marital relations	Wandering about streets Attending moving pictures Meeting with extra-marital lover and sex relations with him for all of which she had no memory afterward	Escape from unsatisfactory marital adjustment on basis of extra-marital love affair and phantasies of running away with lover etc Satisfaction of otherwise unsatisfied sex cravings	1 Reconstruction of amnesic period by free association methods. Complete aeration of conflict material and desensitization to family situation. 3 Re-education regarding the objective meeting of her problems 4 Constructive socializing program after leaving hospital	Improvement after few days in hospital Patient still under treatment

PSYCHONEUROTIC REACTION TYPES 551

POINTS IN DIFFERENTIAL DIAGNOSIS BETWEEN ORGANIC AND HYSTERICAL AMNESIC PERIODS

Characteristics of amnesic period	Organic	Hysterical
1 Onset	Usually abrupt and sharply defined. If precipitated by head injury there is often also amnesia for events preceding the injury for two or three hours.	Usually given by patient as abrupt, but frequently there is some vagueness as to exact time of onset. No loss of memory for events preceding onset.
2 Recovery	The actual period for which there is amnesia usually disappears suddenly, over a period of one or two hours a day, often after a profound sleep. Mild confusion with difficulty of orientation may persist for a day or two afterward.	Recovery abrupt with mental clearness and accurate orientation. There may be some vagueness as to time of actual termination of amnesic period.
3 Precipitated by	Occurs spontaneously or following actual head injury, and may occur at any time.	Almost invariably precipitated by definitely traumatic emotional experiences.
4 Behavior	Often confused and bizarre with evident lack of emotional control. Often dissociated, cruel or gruesome acts, or delirium.	Usually purposeful and carrying out a continuous project associated with some definite previous experience in patient's life. Contact with surroundings maintained.
5 Physical examination	Will often show evidence of head injury, brain tumor, focal or general neurological signs, etc.	Reveals no characteristic picture. Often there is constriction of sensory functions. Most commonly contracted visual fields or localized, atypical losses of tactile sensation.

Characteristics of amnesic period	Organic	Hysterical
Post-amnesic period		
1 Memory loss	Characteristically a complete loss of memory for all events during period of fugue which cannot be reconstructed by any means whatever	Characteristically a complaint of complete loss of memory for events of fugue episode but isolated events during the fugue may be remembered, and all events can be reconstructed completely by associative methods or hypnosis. Events preceding the period of amnesia are usually clearly remembered.
2 Personality type	Often distorted into instability and irritability accompanying organic brain disease. Not necessarily typical of any personality syndrome.	Typical hysterical personality type with hypomanic or depressive characteristics and often showing other functional disturbances during interval between fugues.
3 Physical examination	May be similar to that during fugue period.	May be similar to that during fugue period.
4 Serological	There may be specific evidence of syphilis or other organic brain disease by increased spinal fluid protein and cell counts, positive Wassermann, etc. or often in epileptic cases decreased spinal fluid protein.	Characteristically normal findings.

The patient had been keeping some 11 or 12 Boston bulldogs in the house. When the husband told her that she could not take these to the new home, she "squalled and kicked and said she was going to die. She said she couldn't eat and

her bowels got so they didn't move. She vomited and couldn't keep any food on her stomach. When it started, she weighed 160 pounds and in two months she got down to 115."

In April, 1927, her husband came home from work and found her in bed. She told him she had fallen and bumped her head and that she had been unconscious. She had remained in bed ever since, refusing even to get up to go to the toilet. Until the time of her admission to the hospital twenty months later, she complained of a great variety of physical ailments and had many doctors to see her. She revived a previous interest in Christian Science, undertook no physical activity whatever, and evidently seemed satisfied with her situation. The husband of the patient, and her son, paid little attention to her. They had evidently become quite hardened to her continuous complaints of distress and illness.

Evolution of the Problem. The development of this illness began in early childhood. The patient was the youngest of four girls, and was 'babied' by the mother and an older sister. She had her own way throughout her early life and was absolved from any housework, dish washing, etc. She had had "stomach trouble," had been preoccupied with constipation since childhood, and there had been a few night terrors, especially one dream about a dog getting on her bed. She had been afraid of the dark, of death and of being ill. She had been fairly outgoing and had many girl friends but had been somewhat prudish about going with boys. Catamenia began at 13. There had been no sex instruction and she had worried over the flow of blood until an older sister explained it crudely. Dysmenorrhea was so severe that she always had to go to bed for a day or two during each period. She married in 1902 at the age of 19. She was totally ignorant of sex at that time and, as a result of the first night of married life, told

her husband the next day that she was sorry she had married him. They quarreled but she stayed on with him and gradually settled down to a humdrum routine of house-keeping enlivened by petty quarrels and bickerings. The first child was born eleven months later, only lived a week and died in convulsions. The labor had been prolonged and difficult, and as a result of it she remained in bed for four months. She complained continuously of weakness and after getting up from bed did very little housework and took little interest in anything. She became pregnant the second time in 1909 and gave birth to a child at full term without any special difficulty. As a result of this she remained in bed for three months and continued to complain of her troubles. The husband stated "If we went anywhere, she would want to go home about the time we got started. She didn't read much of anything, perhaps magazines, but she didn't do much of that, she always complained of being worked to death when all we had was a small house and one boy. She used to go to bed and be sick and I would have to get my lunch for a year at a time, but she would get up and go out auto riding or to picture shows. She seemed to enjoy playing cards and entertaining friends. She would keep friends until she would hear them saying something about her and then she would drop them."

In 1915, after a family quarrel, she had taken to a wheel chair and had gone about in it for about a year, and when ever she was opposed she would have a spell of temper and become ill. She became very much interested in pets, especially bulldogs and accumulated a great number of them. In 1920 her mother died. Then she took to bed and remained there three weeks, refusing to have a doctor. She would roll up a blanket and pet it and say it was her mother, but she did not appear particularly depressed. At the age of 25 she became a Christian Scientist and when her son had pneumonia, she insisted on trying Christian Science on

him. Finally the husband called a physician and the boy recovered.

Family History —The father had had a birth-palsy of the left hand. He lived to the age of 78 and died of influenza. "He was thoroughly shiftless, his wife had to transact all business and take in washing." The mother died at about the age of 60, also of influenza. She had been emotionally dependent on the patient, 'babied' her and gave her her own way. Of the three older sisters, one died of cancer of the stomach at the age of 47, had been mentally ill and had recovered and married, but was always complaining of physical illnesses. Another sister was "fanatic on Christian Science," was a chronic invalid and quarreled much with her husband. The third sister was living, married and well adjusted. Nothing else of importance could be learned regarding the family background.

At the time of the patient's admission, physical examination showed an obese woman of pyknic habitus who had to be lifted from the wheel chair to the table as she could not use her legs. The pupils were irregular in outline but equal in size and reacted well. The teeth were carious and many were missing. The tonsils were enlarged and ragged with slight congestion of the posterior pharyngeal wall. The lungs were clear throughout, the heart normal in size and shape with rather loud and booming sounds; blood pressure 180/90. The abdominal wall was markedly striated. A vaginal discharge was present. The tendon jerks were markedly exaggerated. The muscles of the calves of both legs were very much atrophied from disuse, the foot was extended, and there was marked limitation of motion of the ankle joint. All of the muscles of the thighs and legs were soft, flabby and weak, but the knee and ankle jerks were in proportion to the amount of muscle tissue present. The urine examination showed specific gravity of 1.018 and a few pus cells, but otherwise was normal. Hemoglobin, 60,

erythrocytes, 5,000,000, leukocytes, 14,200 with 69% of polymorphonuclears; spinal fluid, negative throughout; basal metabolic rate plus 4; weight, 162 pounds. X-ray of the ankle joints showed marked osteoporosis.

Mentally she was content to remain in bed, demanded much attention and refused to do anything for herself. The stream of mental activity was relevant and coherent, and the psychomotor activity was normal. She talked a good deal about her physical condition. "I think that after I had that baby I got up and worked too soon. I have a nervous condition—worries, fear and thoughts, you know, like a mother worries over a child. I always worked so hard." Emotionally she was slightly dissociated as when complaining of pain and discomfort, she would smile cheerfully. No delusions or hallucinations could be elicited, and the sensorium was clear throughout. The judgment was somewhat defective in that she was incapable of making plans for the future and not particularly interested in it. As to insight, she felt that she was simply physically weak, due to childbirth, and that there was nothing wrong with her mentally.

It was obvious that we were dealing with a purely functional condition. The vaginal discharge was entirely due to uncleanness and cleared up on mild treatment. The bones of the feet were porous, due to disuse, and the leg muscles were flabby for the same reason. No neurological basis for any of her complaints could be found.

The evolution of this problem is clear. We start with a child who was given her own way all her life, babied, petted and relieved of all responsibility, who had been given no sex instruction, and who developed the habit of meeting the difficulties of life with temper spells and complaints of illness. With marriage at the age of 19, the shock of sex discoveries and her inability to adjust completely to these things, we find her substituting the same sort of physical

disturbances that she had always utilized to gain her ends. Subsequent childbirth, and prolonged treatment in bed following it, laid down the pattern for the chronic hysterical reaction manifested later.

The patient was placed on a therapeutic regime as follows: Calcium lactate, cod liver oil, massage, diathermy, electrical stimulation, and activity to the limit of her ability. It was obviously inadvisable to get her up before the bones and tendons of the ankles had been strengthened considerably. In the meantime the background of her illness was reviewed with her daily, and she was made to understand the way in which she had substituted physical complaints to escape from the distasteful responsibilities of married life.

After three weeks of intensive physiotherapy and psychotherapy, calcification had so much improved in the bones of the ankle and leg muscles had so strengthened that it was safe to get her on her feet. She was placed on a gradually increasing program of daily walking exercises, and at the end of five months of hospital treatment was able to walk normally and carry on a full day's activity. As it was impossible to adjust the home situation favorably for continued activity of the patient, arrangements were made for her to go to her sister in Florida. Our latest reports indicate that she is continuing to make a fair social adjustment.

CASE. 77 **Hysterical Psychosis.**

The patient Elsie B. is now 20 years old. Father died at 33 of "muscular paralysis." One sister, at 14, had a psychotic episode during which "she cried and laughed and saw imaginary things." Elsie made only average progress at school and at 15 entered the service of a large business firm as a junior clerk. She made rapid progress and was repeatedly promoted. Her disposition was a happy one—bright, cheerful, gay, always singing, good-natured, friendly and thoughtful about helping others. Contributed her earnings

toward the household expenses and was always willing to be guided by her mother.

Seven months before the onset of the illness, she engaged herself to marry a man of somewhat doubtful reputation, who was many years her senior. Her mother counselled against the union, but for the first time Elsie disregarded her advice and set a date for the marriage ceremony. After this, she "did not seem like her usual self." She complained of fatigue and almost constant headache and worried about the office. Fainted three times while at work. She became very irritable, disagreeable and extremely selfish in her attitude.

Seven weeks before admission to the hospital, she returned from work, threw herself on a couch and "stared at the ceiling." Suddenly she began to scream, ran up and down the hall, had several "fainting" spells and each time was "unconscious" about ten minutes. There was intense headache, pain in the stomach and cold extremities. She responded to questions in a dazed fashion, but finally confessed to her mother that she had had sex relations with her fiance and was filled with fear that she might become pregnant.

A week before she had consulted a physician who had tried to assure her that she was not pregnant. The physician reported that the man, also, had called to see him and volunteered the information that the coitus had been incomplete, and that he became alarmed because "the patient became very much frightened." For three weeks the patient had frequent laughing spells, came downstairs in her nightdress and sat in the dining room talking to the male boarders, turned on the Victrola and danced, had numerous "fainting" spells, found fault with everything that was done for her, took very little nourishment and lost weight. At the end of this time she became inactive, silent and lost interest in her appearance. She was persuaded to

go shopping for her wedding dress but "wore out" her mother "going from store to store" and "would not be suited." Finally she selected a dress but after taking it home, she declared that she would "never wear it" Her mother scolded and she made a somewhat childish attempt at suicide by turning on the gas

If crossed in any way she had "fits"; made herself rigid, clenched her hands, tore at her clothing and gritted her teeth She began to speak in low whispers and refused food

On admission to the hospital she seemed confused, did not respond to questions and tried to follow the nurses about The following day she was oriented but not very responsible During the next week she gave the impression of gradually increasing confusion and finally became stuporous

The stupor endured for two months From time to time, there was evidence of both negativism and catalepsy There was no reaction to needle pricks or to other stimuli but the corneal and conjunctival reflexes were both active. Threatening movements directed at the eyes caused the patient to wink There was partial loss of bladder control. However, it was evident that the stupor was less profound than appeared on the surface Often the patient struggled against tube feeding. In the absence of the nurses she frequently helped herself to food and liquids, though in their presence she never made any spontaneous effort. At the end of two months she emerged abruptly from the stupor, talked in a low whisper to her mother, readily addressed the physicians by their correct names and was soon clear and spontaneous

There was amnesia for practically the entire duration of the stupor It was regarded as a long sleep. A strong recollective effort succeeded in recalling a few, unimportant, discrete incidents, "dimly as from a dream."

The recovery of the patient was complete and 13 months have elapsed without recurrence The contents of several

letters, written within a month of the "awakening" from the stupor are illuminating. In a somewhat casual, rather chatty letter to her fiance she assumed that the engagement was broken. "I don't know how you feel about it, but maybe it was God's own intention of sending me that spell of sickness, to prevent our plunge into the sea of matrimony. Maybe to prevent an unhappy married life. Maybe that is just my imagination, and yet it may be a blessing to both of us."

Further, she wrote that he should not hesitate to seek another marriage and she hoped that he would be very happy. "It is not my disposition to be jealous." Further plans were discussed enthusiastically. Her illness was ascribed to overwork and she dwelt on its unusual feature at some length. "I have been confined to bed for three long months, unable to talk or even walk, in bed all the time. I had what they call sleeping sickness. I could not eat any food and had to be fed with a long rubber tube. . . I have been buried alive for so long, etc., etc." Intended for the same post were two letters to men of her own age, which were in the nature of overtures for the renewal of old friendships.

Physically, there was healed pulmonary tuberculosis, and in repeated vaginal smears, numerous gram negative diplococci both intra-cellular and extra-cellular.

It need only be mentioned that there were present in this instance, certain factors which favored the development of hysteria. An escape was provided from a situation which had become threatening and distasteful. Without attempting to evaluate the somatic status, it is merely to be recalled that along with the appearance of the hysterical phenomena, there was at least coincidental physical decline.

TRAUMATIC NEUROSES

Since the theory that traumatic neuroses are due to hypothetical molecular changes in the central nervous

system is scarcely tenable, the separation of the traumatic and war neuroses from the others is now largely a matter of custom. In other words it is hardly the physical trauma such as the railroad accident, the shell shock, the concussion, or the gassing which producing the traumatic neurosis, but rather the mental accompaniments such as fright, anxiety, and the like, and the psychic interaction which results from the trauma, and the important questions this interaction opens up, such as worry concerning future working capacity, fear of repetition of the accident, the human desire for damages, and in short, the fear of being handicapped and exposed to the vicissitudes and hazards of the battle of life. Such a belief does not deny the existence of actual organic concussion, but it merely restricts the number of cases in which there is true pathology. It is not always possible to say with exactitude whether the case is organic or whether it is functional, and it is not unlikely that there may be transitional cases which participate in the nature of both.

Symptoms.—Usually the symptoms of a traumatic neurosis are typically hysterical or neurasthenic, though in many cases in civil practice there is an admixture. The bodily symptoms may include everything which has been described in this chapter on hysteria. The motor irritation symptoms such as tremor and myoclonus, and paralyses of the arms or legs, or of functions, such as walking or standing, as well as contractures, are frequent. Sensory failures, such as anesthetics, are also quite common. Pain is a frequent symptom and in war there were numerous cases of "lumbago and sciatica" with grotesque kyphoses, scolioses, and disturbances of the gait. Hysterical deafness and blindness may appear, as may also loss of the sense of taste and smell. Finally there may be in traumatic hysteria manifold trophic, secretory, cardiovascular, and other phenomena.

The symptom of approximate answers or the Ganser syndrome may occur. Questions relating to figures and dates are answered approximately as $6 \times 3 = 19$, $7 \times 4 = 29$,

or the date is given as one or two dates later, etc. In the "pseudo-dementia" of Wernicke, the patient cannot speak coherently and acts childishly. In the related hysterical puerilism there is a regression to childhood behavior, often in loss of speech and writing function, childish gait, food, habits and general conduct.

Probably the tendency towards simulation is greater in traumatic hysteria than in the non-traumatic. One can never be sure how large the conscious elements may be, but it is certainly true that the condition of the patient while under examination is very different than it is when he is unobserved. However, this does not at all exclude an unconscious mechanism.

It is, however, particularly in those traumatic neuroses in which there is potential compensation, that it is difficult to determine with exactitude the question of the operation of conscious influences on the part of the patient. Theoretically the distinction is clear. In malingering the symptoms are voluntarily, deliberately and consciously produced with a gainful objective in mind, in hysteria the symptoms are the results of psychopathological mechanisms largely beyond the awareness of the patient. Practically, it is true, that in actual hysteria there may be much simulation. Kretschmer regards "reflex hysteria"¹ of recent occurrence as more likely to be free from the taint of simulation. It is always important to weigh carefully the gain that accrues to the patient from his illness but, on the other hand, such gain often is not to be reckoned in material terms and since the patient himself may not recognize it consciously, it may be a part of the hysteria mechanism and can only be examined after the hysteria has been traced to its hidden source. Thus, a middle-aged patient with headache, marked tremors and an hysterical limitation of the visual fields insisted on

¹In which an automatic nervous mechanism is prominent and the will unimportant, as, tic, spasm, tremor.

giving up an executive position with a salary of \$12,000 annually, placing himself on an allowance of \$175 a month as a pensioner. Careful study of the situation revealed sexual difficulties with his wife and he felt that because of his illness the physician should forbid sex relations. There are many phenomena in hysteria that suggest simulation, perhaps notably the resistance to cure but, again, it must be remembered that the hysteric has converted his psychic difficulties into objective signs and symptoms and is not greatly disturbed emotionally.

In traumatic neuroses more exact information is needed (as far as conscious and unconscious motivations are concerned) concerning that "no man's land" between the occurrence of the trauma and the onset of the symptoms. This is especially important if the accident has occasioned a brief period of unconsciousness. It seems probable in certain traumatic neuroses, that during the twilight state while unconscious mechanisms are shaping the conversion into objective physical signs, there is still the intrusion of conscious or at least, semi-conscious elements, perhaps partly repressed and partly admitted, but, nevertheless, having a bearing. It may be seen that in some instances the dividing line between malinger and hysteria may be very faint.

In true hysteria, the tendon and skin reflexes, the muscle volume and tone, and the electrical reactions are usually not disturbed. The physician must bear in mind that there is frequently an hysterical addition to actual trauma. It is quite important to separate out the symptoms which are organically conditioned from those which are functional.

The mental features of traumatic or war hysteria may be similar to those of the usual form, especially in regard to the emotional state, the depression, and the like. However, the traumatic patient is apt, in general, to be more hypochondriacal and querulous.

The picture of traumatic neurasthenia does not differ very greatly from ordinary neurasthenia, though there is more likely to be an admixture with hysterical symptoms. The case is further very apt to be complicated by the element of expectation of damages.

Course. The course of traumatic neuroses depends on the one hand on the desire to get well, and perhaps in some degree to the intensity of the desire for compensation. Furthermore, it is shortened by the skilfulness of medical and social treatment. In general the prognosis in war was much better than in civil practice, since the treatment was systematic and energetic, and the physician had complete control of the environment.

War Lessons. The war has given us some valuable lessons concerning the proper treatment of the traumatic neuroses. It has emphasized the importance of controlling the environment. This can usually not be done unless the patient is under care in a hospital. Details of treatment depend very much on the individual case, and the use of suggestion is valuable. In the war neuroses the patient was often "cured" in a single seance, but this is scarcely possible in civil practice. Indeed, it was not true of post-war neurosis, at least while the hope of compensation was held out.

The physician should realize that his attitude when he sees a patient who has recently suffered from a trauma or accident may determine the development of a neurosis. For instance to say to a patient who is suffering from an insignificant laceration of the back that "if it had been a little nearer the middle you would have been paralyzed" simply means that the seed of suggestion for the development of a neurosis has been planted. The above remark was made by a hospital interne as he was dressing a minor laceration of the back about two inches to the left of the thoracic spine, in a young, giant negro laborer, beautifully developed muscularly and enormously strong. Three days later, the

man returned to the dispensary bent over almost double and groaning with pain localized in the thoracic spine. He was "cured" by suggestion reinforced with high frequency electricity. Frankness is advisable, and the patient should be told positively and without qualification as to when his wound or injury should recover. If the question of compensation complicates the treatment, the physician should attempt to have it adjusted in a just way as soon as possible. Delay is unwise, creating a period of uncertainty on the basis of which a neurosis may come to the surface. It is unquestionably true that the numerous examinations which are made by various medical representatives prejudice the patient's treatment and recovery. With his mind already prepared for a neurosis, the repeated examinations and disagreements have a very unhappy effect.

In conclusion it may be said that after all, the difference between the neuroses of civil practice and those of war is largely one of degree. In each instance the concussion or the actual trauma whatever it may be simply provides a method of escape from an unpleasant and perhaps intolerable situation, and opens up to the unconscious mind new and desirable vistas. The lessons learned in the care of war neuroses should not be forgotten. In war the patient was living under a strict regime, the physician could to a large degree control the environment, the clinical situation was minimized, the advantages of a return to duty were emphasized, as were also the disadvantages of failure to return to the line. There was an examination by one expert and no medical disagreement, and altogether an environment was created which fostered in the soldier a desire to overcome his handicaps. In the traumatic neuroses of civil life the closer that this can be approximated, the better the chances of restoration. Too often in the traumatic neuroses of civil life the physician makes no attempt to manage the environment, and the patient is often at the mercy of sympathetic

and thoroughly misguided relatives, who unwittingly exaggerate the injury. Furthermore, our cumbersome legal system permits dishonesty, a certain species of lawyer, often of ill repute, fostering in the patient's mind the belief that he has been seriously hurt and is entitled to large compensation. Thus a pleasant vista is opened up before the patient, and there is at least the invitation to capitalize the accident and to insure for himself ease and comfort. Finally, a certain proportion of so-called expert medical opinion has deservedly fallen by the wayside, apparently it was, and to some extent still is, not difficult to have almost any opinion substantiated by a certain type of physician. This is no reflection on the great bulk of specialists and doctors who are thoroughly honest, and only who testify to what they actually believe. The system of trying such cases before a jury is rather unfortunate. Usually the jury is not qualified to understand the complex nature of the difficulty, and is quite apt to award damages on an emotional rather than on an intellectual basis. A good deal of progress is being made by trying many such cases "out of court," before an unprejudiced compensation board, which listens to undramatized evidence, and is guided by the actual facts rather than by oratory.

SYMPTOMS OF NEURASTHENIA

Briefly the symptoms of neurasthenia include such *general symptoms* as fatigue that is often present on slight exertion and may be curiously selective in that it is chiefly manifested when the patient's interest is at a low ebb, loss of weight, etc., such mental symptoms as inability to concentrate, uncertain memory, fear of insanity, awkwardness and self-consciousness in the presence of others, feelings of inferiority, irritability, depression, phobias, anxieties, etc., and such *local symptoms* as these — *Alimentary*. Capricious appetite, anorexia, indigestion, distention, eructation, nausea, vomiting, constipation or diarrhea, mucous colitis. *Circulatory*. Varying

degrees of cardiac discomfort, tachycardia, palpitation, pseudo-anginal sensations, heart irregularity. *Vasomotor* Pallor, blushing, sweating, coldness, heat and numerous other phenomena *Genito-urinary* Impotence, nocturnal emissions, dysmenorrhea, dyspareunia, frequency of micturition, increased urinary output, "loose kidney," etc *Respiratory system*. Frequent "colds," shortness of breath, sometimes hastened respiratory rate with shallow breathing, etc *Nervous system* Peculiar sensations in head and in fact in every portion of the body Feelings of swelling of scalp, band around head, bursting and stuffiness of head, headache, especially in occipital region, peculiar, uncomfortable or painful sensations in the abdomen, rectum, breasts, etc. An almost universal complaint is backache Giddiness and dizziness is common and insomnia is rarely absent. There may be photophobia, *mascae volitantes* and eye-muscle fatigue, ear noises, intolerance of ordinary sounds, etc

Neurasthenia in its original form, according to Meyer consists of mental and physical fatigue, associated with sensations of pressure in the head, poor memory, inability to concentrate, irritability of temper, increased reflexes, poor sleep and various aches and pains

The following case is fairly illustrative of neurasthenia

CASE 78. Bessie B, 37 years old, is a stenographer. We shall describe briefly the condition which presented at the time of examination and then attempt to point out retrospectively some of the factors in her life history which contributed toward the development of a neurasthenic syndrome

The patient spoke freely and described the subjective symptoms and sensations in detail. Usually extremely fatigued so that a brief effort was exhausting, at the time of the examination she was quite willing to devote several hours to a description of her illness without any complaint of tiredness (*selective fatigue*). Generally she gave the impression of listlessness and even prostration, but at this

time she was animated, eager to make her meaning clear and made appropriate gestures by way of illustration and emphasis. Once or twice during the interview, when dwelling on some particularly distressing symptoms, tears came into her eyes.

Headache was the most constant and troublesome and at times became almost intolerable. Beginning at the back of the head it soon became diffused. The pain rapidly grew more and more severe and at its height it felt as though the head was going to burst. If she tried to walk she staggered like a drunken person and the only method which produced even slight relief from the cephalalgia was rest in bed. During these paroxysms the room had to be darkened, and the eyes were kept closed for even subdued light had a "blinding" effect. Even when the headache was absent, it was practically impossible to read. After a few minutes her "eyes blurred", the words ran together and "specks" obscured her vision.

The digestion was "as bad" as the headache. She scarcely ever had much appetite and often the mere thought of food was sufficient to induce nausea. Her stomach was "swollen". If she forced herself to eat, the food formed "a lump in my throat" and immediately after eating there was "sharp pain in the left side". Now and then she could eat a substantial meal but the fear of "a digestive attack" had led her to confine the diet largely to raw eggs and milk. Consequently there had been weight loss.

There were many other difficulties including severe backache, "catarrh" of the nose and throat, frequent micturition, etc., but the headache and gastrointestinal symptoms were the most distressing and "serious".

The patient was convinced that the "nervous symptoms" were due to her physical sufferings. There was "inside nervousness" (*tension*) which came on when she tried to talk to anyone, or think of going back to work and in fact it

accompanied every effort. She did not go out much and felt uncomfortable in the presence of others, because she was afraid that the strenuous effort necessary for self-control would attract attention. She was "blue" and "utterly miserable" and cried every day. "Not insane, the depression" and "from the headache and stomach not from the mind," but her condition had made her "different" and sometimes there came the "fearsome thought that she might be going insane." She could not see how she could "ever be myself again." It was impossible to concentrate and her memory was "bad." Return to her former position or even light occupation was out of question.

The onset of the illness was dated back three months. It came on suddenly, after the left ear had been lanced and "some fluid material came out." The headache "started the next day." It was so severe that it made her "inwardly nervous." On the advice of friends she went to a chiropractor but he injured her stomach, perhaps, "put something out of place." The stomach symptoms began with a sharp pain in the abdomen, the night following the first treatment. Next, she put herself under the care of five physicians, "one after the other" and faithfully followed directions. In spite of the treatments, she became progressively worse. She was quite sure that three months ago she was well and did not know of any cause of the "breakdown" other than being run down physically. There were "no worries or anxieties" and before she became ill, she was "not dissatisfied or unhappy about anything."

Physically the patient was 69 inches tall and weighed 111 pounds. Muscles flabby. There was pallor and the surface of the body was quite cool with blueness of the hands and feet. The throat was reddened, there was a collection of mucus in the posterior pharynx and the nasal mucous membrane was atrophic (ozena). Infected teeth. Blood pressure 140/90. Tremor of outstretched hands. In the

urine there was a faint trace of albumen and an occasional granular cast. There were 4,210,000 red blood cells, 77% haemoglobin and 12,800 white blood cells, normally distributed. X-ray revealed a low, "fishhook" atonic stomach. Blood chemistry, stomach and duodenal contents and basal metabolism were all within normal limits.

It was fairly obvious that formal mental examination would not discover anything of note from the standpoint of mental disease in the usual sense. There were no delusions or hallucinations, the depression was closely related to the neurasthenia, the sensorium was clear, memory intact.

We will review the history in an elementary way, carefully avoiding any attempt at interpretation. The mother of the patient was "emotional" and "worried terribly about everything." One maternal uncle was an absinthe addict. A brother "worries terribly" and is "nervous and self-conscious," another is mildly alcoholic, a third is irritable and moody. A sister has epilepsy, is irritable and moody with a "dreadful disposition," another is "up and down," is cheerful one day and depressed the next. The household is made up of the father, who is normal; the alcoholic brother, the epileptic sister, the "moody" brother and the patient.

From the age of 11, the patient has had severe nasal catarrh and "stomach and intestinal trouble" which was variously diagnosed and treated and regarded by one physician as "tubercular." Even in childhood she ate only small amounts of food, fearing subsequent discomfort. Furthermore, there has always been insomnia and all in all, she "never felt well." The menstrual periods were regular, scanty and painful.

In school she did exceedingly well but was forced to leave during the first High School year, as her earning capacity had to be pressed into service for the needs of the family.

She became a salesgirl and at the same time attended night school, making unusual progress and completing the stenography course in six months. Her first stenographic position was held for seven years and filled in an efficient and satisfactory manner. Higher paid work in a bank proved a disappointment since the bank failed four weeks after she entered its service. As one of many stenographers for a large manufacturing firm, she was dissatisfied. It made her feel like a very small part of a big machine and she believed that she should keep herself above the plane of the average worker. However, for the past three years she has not complained of her duties as stenographer for a small business firm.

From information obtained from the patient and from other sources, we get the impression of a quiet, reserved personality, too critical of others to be social. Yet as is often true of the hypercritical, she was herself extremely sensitive. The nasal catarrh, which did have an offensive odor made her doubly sensitive and she was quick to notice and was hurt if anyone appeared to move away from her immediate vicinity. It is obvious from the history, that for several years at least, there had been a tendency toward seclusiveness. Often, she was irritable and dissatisfied and now and then, referred to the fact that she had not accomplished anything worthwhile in life. Few diversions, the reading of fiction and the theatre once weekly were the chief recreational outlets. Toward men, there was professed indifference and seemingly little interest in several opportunities to marry. The men she was able to meet socially always fell far below her expectations and ideals.

The atmosphere in the home had never been a pleasant one. The parents were not unkind or unjust, but very strict and always demanded instantaneous obedience. The mother, who died two years ago, had "never been affectionate."

DISCUSSION

It is profitable, perhaps, to begin the discussion from the standpoint of the physical status. Without any question or even conjecture as to whether or not the pathology which was discovered was causal, it is necessary to point out to the student that as is frequently the case in neurasthenia, this patient was anything but somatically sound. Omitting doubtful points we have still to consider atrophic rhinitis (ozena), infected teeth, low grade toxic kidney reactions and, perhaps, gastropotosis.

Our opinion as to elements which deserve consideration as dynamic factors, is derived from our estimate of the patient and the information, which she herself revealed, once she realized the need of trying to look beneath the veneer of the neurasthenic symptoms. Outstanding was a sense of inferiority against which the patient had battled most of her life—even from childhood. Probably not all of the elements which went into its formation were uncovered but to be mentioned are an unhappy early environment, with over-emphasis on parental authority without the compensations which are usually at hand and finally ill-health from "nose and stomach catarrh." Apparently they were connected and it appears that they were medically mismanaged. The nasal catarrh was real enough and it is not impossible that both it and the stomach symptoms might have been nipped in the bud by some such simple procedure as a tonsillectomy and adenectomy. (The infected tonsils were removed many years later in an effort to halt the rapid progress of the rhinitis.) However, the stomach symptoms secured most of the medical attention. Seemingly, there was no attempt at accurate diagnosis and the net result seems to have been a direction and partial fixation at an early age, of the patient's interest on her gastrointestinal tract, which may account for a mental locus of lessened resistance, determining the

appearance of marked digestive phenomena in adult life

Unconsciously spurred on by the feeling of inferiority, the patient, even in her teens made an effort to extricate herself. She studied hard in school and was successful but her ambition was thwarted when she had to abandon the hope of a formal education during the first high school year and go to work. Nevertheless, by attending night school she made herself into a capable stenographer. However, she never realized her half-formed and somewhat uncertain desires for better things. Poor health, friction in the home, insufficient educational background, perhaps, intrinsically determined limitations conspired to keep her at the level which she hated, but above which, she never felt confident of rising. Then followed a period during which she gradually surrendered. In other words, she was unconsciously and, perhaps, partly consciously convinced that she was a failure. The tenseness and anxiety still existed but their energy was not utilized for any useful purpose and she became carping and critical of those with whom she had to associate. In this maladjustment may be read a rationalized deprecatory estimate of self. For her, marriage offered no escape but only a perpetuation of the situation which was so distasteful. The kind of marriage which might have helped was beyond her reach. Next, she sought to minimize her contacts with a reality which only pointed her inferiority. She continued to do her work, but after business hours spent most of the time alone. At this time, we see, here and there, tentative evidence of an unconscious attempt to secure more complete isolation. For one thing, there was the *ozena*, which made it reasonable for her to want to shun social intercourse. Finally, an opportunity appeared when it became necessary to puncture the ear drum for an abscess. With the record of the years of illness before us, we may perhaps, not unreasonably assume an accumulation of nerve fatigue, strong

enough to help deal a final blow against greatly weakened resistance. In any event, immediately following ear puncture, headache appeared. This was soon succeeded by gastrointestinal symptoms, all of which rapidly became so severe, that to continue at work or even to remain at home became impossible. In other words we have to consider the development of a vicious somatopsychic circle—physical and environmental shortcomings during childhood giving rise to a sense of inferiority, this in turn, determining an unconscious or even partly conscious wish to escape from an undesirable situation. Failing of adequate and real, personal and social compensation it still urges some method of escape, without too compromising realization of actual motives. At length, it finds such an escape in the development of neurasthenic symptoms, which not only offer a break from detested environmental reality and from personal dissatisfaction and responsibility but, also, leave intact to some extent at least, a measure of conscious self-respect. The difficulty for the patient is that the conflict is not completed. Possibly in hysteria, it is. In neurasthenia, the tension and anxiety remain but the energy is focussed away from the real and disturbing issue or issues and fixed on the body.

We are quite aware of the fact that there was not a complete analysis in this case and we may have merely looked beneath the surface symptomatic crust. For instance, there was no intensive probing of the sex life. Many interesting and important conflicts are no doubt still buried in the unconscious mind. We are not convinced that in this instance anything useful would have been accomplished by unearthing them. Not every individual is capable of reacting constructively to the kind of knowledge which may be brought to light by deep probing and sometimes it is unwise to remove all the props, which the patient has utilized even though such props may be artificial ones. Before taking

anything away, it is wise to consider what material will be at hand to supply the need which will arise

In addition to such limited understanding of self and better attitude toward environment as we were able to give this patient, there were other points in the treatment which deserve consideration. Always it is advisable to treat scientifically whatever organic disease exists whether it be tuberculosis, heart disease, endocrine dysfunction, focal infection or what not. We cannot follow those who have singled out focal infection and linked it with the neuroses and psychoses as cause is linked with effect. We are inclined to feel that such an attitude constitutes a thoughtless and sweeping disregard of many obvious facts of psychopathology. On the other hand we are wholly in accord with the desire to make the patient as sound in body as is possible. In the first place this is clearly a medical duty. In the second place not only focal infection but other physical disabilities no doubt lessen resistance and produce conditions which in a given case may be favorable for the development of a neurasthenic attitude. In other words they are links in the chain of events which lead to neurasthenia. Sometimes they are strikingly important links, at other times less important, but always they require intelligent study and management. Neither, is it safe to assume that the fatigue even though it be selective, is not real and does not call for treatment. Fatigue is almost always present at the onset and, if neglected, it may become a serious symptom. In the patient under discussion, it was serious enough to indicate hospital care and bed treatment, and the response physically and mentally justified the wisdom of this step. Furthermore, there were other helpful measures. The carefully ordered routine of hospital life, sensible dietary restrictions, massage, hydrotherapy, occupational therapy all contributed toward the establishment not only of a better physical but also better mental morale.

The patient made a satisfactory symptomatic recovery. She is back at her former occupation, we believe with a better viewpoint toward life and with a good chance of eventually accomplishing complete adjustment.

The importance of emphasizing individual treatment justifies repetition. After the student has completed his examination of the neurasthenic patient, he has accumulated a body of information, which should constitute a scientific appraisal—a psychological, physical, social-environmental evaluation. It is important to use this information skilfully. Not only must he ask himself—What is to be done? but also, What may be done? How far may he go with profit to the patient? Particularly is this important in regard to the psychological needs. It has been mentioned, that not every neurotic patient can view everything that is brought to the surface from his unconscious mind and be the better for the experience. Quite often, very simple forms of psychotherapy meet the requirements of the situation and it may be dangerous to go further. No criticism of able and careful psychoanalysts is intended, for they themselves recognize the need for caution.

SYMPTOMS OF COMPULSION NEUROSES

The clinical boundaries of the obsessive and compulsion neurosis are not well defined. There is a group of symptoms including obsessions, impulsions, feelings of insufficiency, nervous tension and anxiety. Episodes of marked depression and agitation may occur.

The obsessive features are the more important and a distinction has been made between obsessive-ruminative and obsessive-compulsive types (Henderson). In the former the pre-occupations do not result in compulsive acts. In any event, there is a kind of "possession" of the mind by the compulsive thinking. It may concern practically any line of thought. A young theological student, soon to

receive orders, was constantly engaged in the thought "whether or not" and "if possibly" and "how can we be sure," etc., etc., that the Host remains unbroken in the ceremonial of the sacrament. The obsessive thinking and behavior may be, and we feel frequently is the result of an effort to keep something else out of the field of consciousness, as in Ross' patient who was constantly forced to occupy his mind with the number 13 and who reacted with such obsessive conduct, as hopping over each thirteenth step or remaining in bed on the thirteenth day of each month. Analysis revealed the repression of a sex experience during boyhood with an ignorant and *very superstitious* servant.

The obsessive thinking may be the result of opposition between a trend or desire not consciously recognized and a fear that it would be carried out consciously. It is a fear that what is held in revulsion will become an overmastering wish and burst into action, thus it may concern suicide, or appearing nude in public or uttering profane and obscene language, etc. There are often symbolizations. In a psychopathic young woman, there was on the surface an aversion to undertakers and embalmers and various ritualistic performances like making the sign of the cross on the forehead were employed when passing their shops. With little difficulty there was uncovered in this patient, a dread of and wish to dissect a living man. In the immediate pathogenesis there was her ill treatment and abandonment by a medical student. During an important murder trial, a patient came to us with the fear that she would confess to the murder.

The step from obsessive thinking to obsessive behavior is natural and easy. Obsessive acts that are symbolic of underlying trends are legion. There are numerous ritualistic actions such as touching certain articles, avoiding certain places or things, food rituals, word rituals, clothing rituals, such as arranging the clothes exactly in the same pattern

each night after disrobing, etc., etc. Somewhere in this territory we begin to touch normal human superstitions whose genesis is buried in the dim history of the evolution of our species and perhaps, it is not too much to say that every human being makes some deference to placate the unknown gods of his prehistoric ancestors.

To illustrate the point of view, that the compulsive ideas are in reality fragmentary substitutes for other ideas, which are even more distasteful to a consciousness than the fears and compulsions themselves, the following interesting case, already mentioned, is quoted in abstract from Ross.

CASE 79. Compulsive Neurosis.

The patient, a man 49 years old, was obsessed by the number thirteen. If the word was uttered he felt a "shock" which was followed by a period of misery. He made such strenuous efforts to avoid any reference to "13" that even ordinary every day activities were seriously hindered. "Everybody seemed to be saying thirteen at him in some way or another, thus they would say, 'Oh, Good morning' and with, as it seemed to him, a most perverse ingenuity, they would later in the day say only 'Good afternoon' (thirteen letters in each). There were many compulsive acts, for instance, the patient never walked in Oxford Circus because of a sign containing the name 'Peter Robinson' which was displayed there. He stayed in bed on the thirteenth day of the month and on the twenty-seventh (thirteen letters). He always hopped over the thirteenth step of a stairway. He had to count the letters in short phrases, words in sentences, his steps, number of streets passed, etc. He was perfectly willing to agree that the whole affair was illogical and ridiculous but this did not solve the problem.

"His obsession had been present about eighteen months when he came under observation. Just before it arose, he had been enlisted, late in the war, and had been living in

barracks. He hated coarseness of any kind. He would have liked to have read the poems of Milton, and to have played the music of Bach and Handel to his fellow soldiers, they would listen to neither, and he himself was compelled to hear their ribald stories and somewhat unrefined songs. The obsession appeared, and he was soon removed to the hospital and discharged from the army; but he could not return to his civilian work on account of his illness. He said that he had had a similar attack soon after he married, which had lasted two or three years. He had had another when he was about fourteen years old. There had been none previous to that.

"At that time of his life he had lived in the country with his grandmother, who kept a single servant. This girl had believed a great deal in the bad luck which attends the number thirteen, not to any absurd degree as he ultimately did, but sufficiently to impress him. So far he related this history easily, it seemed to him that it was enough to account for everything, at a susceptible age, he had been thrown much into the company of some one who had impressed this superstition on him. He had been greatly upset in the barrack room, and the old discomfort had been revived. He had nothing more to say, and no further memories to give about the matter. He was, however, pressed to think a little more about it, and to explain, if possible, why this person had been able to influence him in so abnormal a degree. He then said that it was perhaps because he loved her, and she him. He became troubled and confused, and on being further pressed, related how they had had sexual relations for about two years. After this he had gone to a boarding school, where he had come under strong religious influences, and where he had suppressed the whole of the incidents related above. He had, he said, never consciously remembered them till they had flashed on his mind at this interview.

"His marriage had been unfortunate. He had had connection with his wife before marriage, and had married her from a sense of duty rather than from love. He stated that he found later that she had not been a virgin when he met her, and this tended to augment his feeling that he had done a rather fine thing in marrying her. With this feeling of having done well, there came the distressing obsession about the number thirteen.

"Again, in the barrack room the coarseness of his fellows made him feel how much better he was than they, and again this was accompanied by the obsession.

"We are now in a position to understand the genesis of the symptom."

The patient was a man with a highly developed superiority feeling. In this type of individual the ability to successfully continue in the battle of life has been founded on the conception that they are better than other people.

"At school this man had learned to admire very lofty ideals and to imagine, because he did so, that he possessed them in a high degree. He really did, but inasmuch as this was true, it shocked and pained him to think that there might also exist in the same mind, and that his own, ideas and practices of a very different kind. He fell from his high ideals before his marriage, but quickly restored himself by doing the right thing. Then, unfortunately, he began to despise his wife. Here his superiority feeling played him false.

"His own early experience should have prevented him from thinking ill of her, if she was not a virgin, neither was he. He was not in the least a man who considered that there was one law for man and another for women, men, in his estimation, ought to be pure. That was his thesis. He could maintain his attitude of superiority only so long as he did not remember his own past history. It was, however, almost impossible that nothing of this past should come

into consciousness, and therefore a fragment eluded the censor, the number thirteen, and brought about an emotional reaction through the operation of the conditional reflex

"The same train of events happened in the army, and continued after discharge" (Ross)

SYMPTOMS OF ANXIETY NEUROSES

Anxiety is too broad and significant to be held within the confines of a single neurosis. Its distribution is very wide and its pattern may be traced in practically any reaction organic and functional. Freud's "anxiety hysteria" is unsatisfactory chiefly because true hysteria is singularly devoid of real anxiety. In the anxiety states belong much of the material that was formerly described as psychasthenia, with a prominent display of the so-called phobias or fears.

There is, nevertheless, a clinical type of anxiety neurosis in which morbid anxiety or fear is the most important feature. A general nervous irritability (or excitability) is regularly associated with the anxious expectation dread, in addition there are numerous physical symptoms which may be regarded as the bodily accompaniments of fear, particularly cardiac and vasomotor disturbances, the action of the heart is increased, often there is irregularity and palpitation, there may be sweating, nausea, vomiting, diarrhea, suffocative feelings, dizziness, trembling, shaking, difficulty on locomotion, etc. In a fine young lieutenant in the World War, whose bravery in action had been proven in numerous engagements, one of us frequently witnessed severe anxiety attacks. They followed the knowledge that he would soon be promoted to a captaincy. After a period of troubled thought as to whether he might needlessly expose to danger and death the men who would be in his company, he suddenly exhibited the first anxiety crisis. He was deathly pale, the sweat stood out on his face, his eyes were wide and staring, he was trembling, gasping for breath and his heart

beat at more than 160. He had many such crises but after a period of such explanatory and desensitizing treatment as could be given under war conditions, he made a fairly good adjustment and was able to "carry on." A lawyer of considerable professional attainment, very unhappily married and deeply in love with another woman, developed "anginal" attacks with severe cardiac pain radiating into the left arm, and great breathlessness. They continued for several years and, finally yielded to psychotherapy.

In the anxiety neuroses, fluctuations occur in the intensity of the symptoms, the acute exacerbations constituting the "anxiety attack." Other symptoms than those recorded may be seen, fullness in the stomach, flatulence, "heart burn," frequency of micturition, seminal emissions, muscle twitchings, weakness especially of the limbs, tremors, pains, paraesthesias, blurring of vision, tinnitus, "tension feelings," and a feeling as if there were danger of bodily dissolution, which one of our patients described as a sensation of "falling out."

The mental symptoms include the vast number of fears, hopelessly multiplied by such designations as claustrophobia and agoraphobia. Perhaps most common are the fears of insanity or syphilis. There are difficulties in concentration, depression, etc. In the evolution of the neurosis, the chief fear finally may be the fear of the recurrence of a previous situation in which the anxiety was pronounced, as in a young woman who was sent away by a physician to a Southern resort with the idea that it would cure her "nervousness." For six weeks she was left in a hotel with a companion who had no knowledge or understanding of the situation and, who herself was very hypochondriacal. The patient became much reduced physically, scarcely slept at all and developed an acute fear of insanity. Now, a year later her recovery is being retarded by anxiety about the possibility of ever being placed in a similar position.

The clinical territory covered by the anxiety neuroses is so extensive that several examples are reproduced. Case No 82 is available through the courtesy of a very intelligent young woman and contains her introspection concerning her neurosis

CASE 80. **Anxiety Neurosis.**

A young man, thirty years old and happily married presented an unusually severe psychasthenic reaction with a prominent anxiety component. He had been engaged in business as a special salesman and was quite successful. Rather suddenly he began to experience a series of fears. In a trolley car or elevator a wave of apprehension would sweep over him and there would be the accompaniment of various physical sensations, throbbing of the vessels of the neck, tachycardia, a heavy feeling in the chest, a "lumpy" sensation in the throat, and a "bursting" in the head. The patient was not at all neurasthenic in his attitude and did not feel that these phenomena represented any organic disease, in fact he was convinced that the whole thing was "mental." The apprehension with the somatic accompaniments recurred frequently. Often he would awake from sleep in the grip of fear and with the sensations described above. If at these times he could touch his wife, he would, at once feel reassured. Soon his fears became so marked when he was away from his wife and their apartment, that he would not go out at all and has remained a voluntary prisoner in his own home for several months. If his wife left him, only for a few minutes, he would become frantic and telephone wildly in a desperate effort to summon her. Even though he could not be persuaded to leave his apartment for a turn about the block, yet he insisted on having his motor car parked in front of the house. The only explanation he could give at this time, was that he felt it necessary to have a means of "escape" available. There were many other phobias. Any account in the newspaper

of crime and particularly punishment for crime filled him with dread and caused a recurrence of the physical signs. He was interested in the puzzles of various kinds which are printed in the daily papers but if he was baffled for a solution, he would be greatly distressed and suffer physically. Thunder storms upset him but this had been more or less true all his life. Conversation about death was unendurable and made him suffer "physically and mentally." When pressed for something which was more or less constant in all the fear episodes, in other words what he was actually afraid of, he replied "*Of being surprised*" and later "*of being caught unprepared.*" Formerly he had been quite social and a good mixer, but as is obvious, his fears so handicapped him that he shunned all society excepting that of his wife and his *father-in-law*. Even when he was at his worst and his wife could do nothing, his father-in-law could calm him.

A careful physical examination revealed nothing unusual. It was interesting to observe that belladonna and benzyl benzoate had a very beneficial, though temporary effect on the physical signs of his anxiety.

Without doubt psychoanalysts will scoff at the "analysis" which was made. It consisted of informal conversations with the patient and a few association tests. Without going into detail it is important to mention at least some of the repressed or partially repressed memories which were recovered. During childhood, the atmosphere of the home in which this patient lived was strongly religious. Eternal hell was held out as the punishment for bad behavior. There were four brothers all rather strong and robust, while the patient himself was puny—the weakling of the family. Here, followed a flood of memories, whose outpouring was quite painful to the patient. He recalled that he was the butt of his brothers' jokes and frequent ridicule. If there

was any physical suffering involved he did not mind it much but mental chagrin and embarrassment was almost unbearable. His father was his champion in the home and on numerous occasions rescued him from the hands of his brothers. As a child, he would picture in his mind the dreadful possibility of being placed in situations from which he could not escape and *from which his father could not deliver him*. There was a close bond between father and child. The father was sternly religious and though the boy dreaded it, yet, his parent's concrete expositions about the future life and punishment, fascinated and deeply impressed him. The saddest memory which he had, about which he had never spoken to anyone heretofore and the telling of which released a flood of tears, was the death of his father. He could describe the scene minutely, the dying man's last words; the whole sad paraphernalia of death. "*The feeling of being alone was terrible*" He suffered acutely, "*both physically and mentally*" From that day to this, he had tried to avoid all thought of and association with death. But, the re-enactment of the affair for the benefit of the physician gave him "immense relief". Another memory which he recalled with great difficulty was one which had produced a marked fear reaction. He was about 18 years old and working for his brother. Some boyhood "scrape" had induced the need for money and he was several times guilty of abstracting cash from the register. This was discovered by the brother, who treated it not only seriously but very dramatically. For one thing he had insisted on a written confession. Furthermore, he demanded that the boy go through a theatrically planned religious ceremony. "Always," and, "even now" the patient confessed, he feared that somehow and somewhere he would be placed in some situation, when his brother would accuse him of the "crime" and *there would be no escape*. There was only one memory which one can be reasonably

sure was recovered from the unconscious by means of an association test. It concerned an experience which was repeated several times in childhood, at about the age of eight. Two maids who were employed in the household, would from time to time take the boy to the kitchen and let him examine their legs and genitals. When this experience was brought into consciousness, emphasis was placed by the patient on the fact, that while he had been fascinated, the strong emotion was fear that some member of the household might enter the room and *discover him before he could escape*.

The connection between the patient's symptoms and previous experiences, completely or partially repressed, seems clear enough. At any rate, the mechanism was quite acceptable to the patient and the understanding which came to him, combined with the relief from talking it over, occasioned the first improvement. A schedule which involved the doing of those things which formerly had been impossible, hastened the return to the interests and activities of normal life.

DISCUSSION

Whatever may be the exact mechanism, it is unquestionably true that many phobias and inhibitions have their origin in some repressed or partially repressed experience or experiences of early life. One may properly doubt, whether a formal analysis is always needed to bring them to light. How far to go, is a difficult question. For instance, in this case, the fact that the father-in-law was probably a surrogate for the father in the inner mental life of this patient, was not expanded beyond the therapeutic needs of the patient. After all there is some virtue in knowing when to stop. To go too far may do irreparable damage. One is reminded of the story of the patient who strongly

protested a fee of \$1,000 for the removal of a steel splinter from the eye. "Very well" said the eye surgeon and he rewrote the account "For removal of foreign body from the eye, fifty dollars" "Ah" said the patient with satisfaction "that is more like it" "But wait" said the surgeon, "here is the rest of it" Thereupon, he handed the patient a second bill upon which was written "For knowing when to stop, \$950" The moral is obvious

It has been stated that this patient was given a schedule by which to live This procedure may be very useful not only in psychasthenia but in the treatment of many of the neuroses Such a schedule must be a growing thing, in order to be effective. It must take account of the progress of the patient, and therefore, must be continuously modified. There must be care exercised that the patient does not become too dependent on his schedule It is the custom of the authors, as improvement becomes more marked, to include "choice" periods, that is from time to time the patient, himself, selects what he shall do. Furthermore, it is advisable to explain that a schedule is merely a temporary help, useful during the time when the physician must think for the patient and helpful in overcoming faulty and harmful habits and rituals. Thus, the patient is stimulated to hasten the appearance of that day when he can think for himself and "carry on" alone

CASE 81. Anxiety Neurosis.

A young man recently commissioned an officer in the A E F was seen by one of us, about a week before one of the important engagements of the late war On examination he presented a number of interesting phenomena. There was not a vestige of color in his face and beads of sweat stood out on his forehead His eyes were wide and staring When he attempted to take a cup of water his hand trembled so violently that most of it was spilled On

examination there was nothing of neurological significance. The hands and feet were cold and clammy. The heart action was very rapid and the pulse was between 130 and 140. He was not very communicative but said he "felt sick at the stomach", had not been well for several days and had severe diarrhea. At this interview he did not know of any reason for the illness but suggested it might be due to "the chlorine water", nothing had occurred to upset or worry him; he and his company were in reserve and not particularly close to the front and he had never been in action. He was conscious of his symptoms, especially the "trembling". He admitted that he had been feeling "nervous" for some time and the "trembling" and other symptoms came on at intervals. He could not control them.

During the next few days the examiner succeeded in establishing friendly relations with the patient and gradually he was led to speak freely of his difficulties.

He had often had "nervous trouble" which came at critical times in his life. For instance, during his college career examinations had always upset him. He was not a brilliant student, but worked hard and was always well prepared. In spite of this, he could not acquire any degree of confidence and lived in fear of failure. During the final examinations of the senior year he had had almost uncontrollable diarrhea. Such reactions had been fairly frequent and he had grown to expect them to appear in any situation in which he was very anxious to acquit himself favorably. The present episode was the most trying he had ever had, but at one time or another in his pre-military life, he had experienced all the present symptoms, including the tremor and tachycardia. Mentally at such times, he was uneasy, restless and somewhat apprehensive. It was difficult to accurately describe this feeling. It was as though something terrible was

about to happen, but he could not name any concrete fear

He had enlisted in the infantry, worked and studied with great intensity and had set his heart on "making good in the war." He had been made a sergeant and because of the confidence of his captain, was recommended for an officers training camp. Here, he had been occasionally "nervous" and several times had had "attacks" but had succeeded in concealing his difficulty from his fellow students. In any event, he received his commission just before embarking and had landed in France about three weeks before. He got on well with his men but admitted that he had thought and worried too much about how he would acquit himself in action. He "wanted to make sure it would go right" but "could never feel sure." He did not feel that he was cowardly, nor "more afraid of death than the next man." He was afraid in the sense that something would happen "beyond his control" which might disgrace him.

Time prevented anything in the shape of therapy, beyond a few frank interviews. Nevertheless, the patient probably obtained some degree of self-understanding and was helped. The "physical" symptoms did not disappear entirely, but the combination of having someone appreciate and share his problem made it seem less vague and alarming, and together with rest, apparently reduced them to a minimum. He was able to rejoin his regiment at the end of a week. They were moving toward the front but he was willing and anxious "to get back."

CASE 82 The first actual anxiety attack I experienced happened when I was 19 years old. I was engaged to be married and to the best of my knowledge, there had been no particular reason for me to be distressed. One night after I was in bed just before dropping off to sleep, I suddenly became obsessed with the idea of death, its finality and my

utter helplessness in the face of it. As I remember, thoughts such as these kept running through my head: "every minute is one nearer death," "suppose it (death) means being shut off alone and helpless and never seeing any one again." . . . finally, I became panic stricken and I wakened my mother and told her my feelings. She reassured me somewhat by telling me that many people felt as I did from time to time and that I must relax and not let myself get too "worked-up." This helped me and I slept. The next few days I was troubled with the same thoughts and feelings from time to time. Then I told my fiancé, hoping for reassurance—He was not particularly understanding and told me it was foolish to think about such things since I couldn't help dying and it would not help to be afraid. I was terribly shaken by this for what I wanted was confidence and a feeling of being close to someone and his attitude only increased the very feelings I was struggling against. This situation continued off and on gradually diminishing and apparently I forgot all about it. During this first episode there was no specific fear as fear is generally understood. It was more a feeling of horror of finality and helplessness.

About a year after this when I had been married about a month, I had quarreled with my husband over a rather minor matter and during the quarrel he suddenly turned on me and said he would commit suicide if I didn't stop. This frightened me and I stopped the argument at once. Later in the morning I was on a train going to my mother's (this had been planned before the quarrel) I was reading—the book happened to contain a rather bloody description of a murder—suddenly I felt faint and dizzy. I was alone in the car except for some laborers whom I felt could not assist me. I was panic-stricken. I thought I must be dying. I was afraid to call the conductor for fear he might not know what to do and frighten me more. Somehow I

got to my mother's and told her the whole thing. She was very calm which helped me and the feeling passed off. In other words I was not afraid when I was with someone in whom I had confidence. I continued to lead a normal life for another month, fighting down the panic as best I could. It was hard, for the fears became concrete . . . fear of crowds and closed spaces, of loud noises and of being alone. I was not getting along with my husband and we quarreled a lot especially over his mother and what I considered her injustice to me and his inability to take any stand with her even when he would admit she was wrong.

The final break came when I was to return home to my husband from a visit to my family. I was on the train accompanied by my mother. There was a tunnel along the line I had never been conscious of noticing before but this time I felt I must get off the train at once. I could not go through the tunnel. Why I didn't know. I felt dizzy, faint, choking—my clothes felt tight as though they would smother me, I could not get my breath. Again the idea of dying came out. I finally had to leave the train. I returned to my mother's by auto. The sensations left me as soon as I started back, but I was overwhelmed by an overpowering sense of guilt about my husband. I felt that he would never understand that I couldn't help my feelings and would blame me or think I was insane. These episodes continued from time to time until I came under the care of a psychiatrist.

In looking back to my childhood to try to see where my fears developed there were many incidents and situations worthy of note. My parents were highly emotional people who lived at a high tension. Both drank considerably and quarreled violently, often threatening each other's lives and physically attacking each other. This usually happened at night when I was in bed and thought to be asleep. I

remember often lying awake, afraid to fall asleep for fear "something would happen." I also remember once my mother screaming for help, saying that my father was killing her. I ran in the room crying and terrified and unable to do anything. Somehow they realized my fear and stopped to comfort me, telling me that they were only fooling. This made me more insecure for I knew the truth. Another time I woke from a nightmare frightened, and ran into mother's room for comfort only to find her unconscious from liquor. I could not waken her and thought she was dead. I went wild with fear and slapped and pulled her until she opened her eyes. My relief was overwhelming but she only groaned and slept again. I lay all night beside her, comforting myself with the thought that I had wakened her and could again if necessary but afraid to try in case I would not be successful a second time and in that case I realized I would be utterly helpless. During another family quarrel, my father threatened to commit suicide. Mother to my horror dared him to go ahead. He left the house. I begged her to stop him but she only laughed and said he was a coward and would not dare to do anything to hurt himself. Before he left she made me say that I hated him so that he could hear me. After he was gone I was in an agony of fear that he believed what I said and if he killed himself, I could never unsay it.

During this period of my life my mother had numerous affairs with men. These men and their attitude toward me, I resented bitterly and inside myself, laid much of the blame for the home situation upon mother on this account. Though I often heard her accuse father of similar misdoings, I was never brought into actual contact with it and to my childish mind they never seemed true.

My mother and father separated finally when I was about 9 or 10 years old. I was taken ill with a serious disease

and was in bed for months. During this time I was happier than ever before for, though I suffered great pain, the family made special efforts to have everything around me serene. My father though not living at home, was constantly with me and mother was at home, sober and good tempered. When I got well we left the city and lived in a small town. This move was the first realization I had that my parents had definitely split. Shortly after, my father died suddenly. His death was a great shock to me and I resented my mother's obvious grief especially since at this time though she kept telling me that she and father were to have been remarried, she was carrying on an affair with a young man in the town where we were living. Everyone in the place knew the situation and their remarks about it threw me into agonies of shame. I used to plead and beg her to end the thing but she would pretend not to understand what I meant and would tell me that the people of the town were not our "equals" and had "dirty minds" etc. I was in school and would have to defend mother to my schoolmates who I knew were right in what they said but whom I felt were beneath me and I hated being in the position of feeling inferior to them because of mother's actions.

These incidents in the family and many others plus the fact that I was sexually attacked by a workman on an aunt's farm and then told that I was lying and "filthy-minded" when I went to my aunt and uncle for help and made to feel that the incident was my own doing. As an actual fact I was scared to death and knew nothing of sex except ideas picked up from servant's talk. It gave me a feeling of having no one to turn to in my childish fears. A hatred for scenes of any kind and a terrible fear of angering my parents would result in feelings pent up inside myself, until they would finally break out in wild fits of temper and passionate sorrow afterwards for things said and done and,

always, a terrible, overwhelming fear of the consequences of anger and strife made me the victim of an anxiety neurosis which I am still struggling to overcome "

THE USE OF THE ASSOCIATION-MOTOR APPARATUS IN THE PSYCHONEUROSES

Several years ago one of us (F. G. E.) became interested in the objective study of emotion, especially as it is related

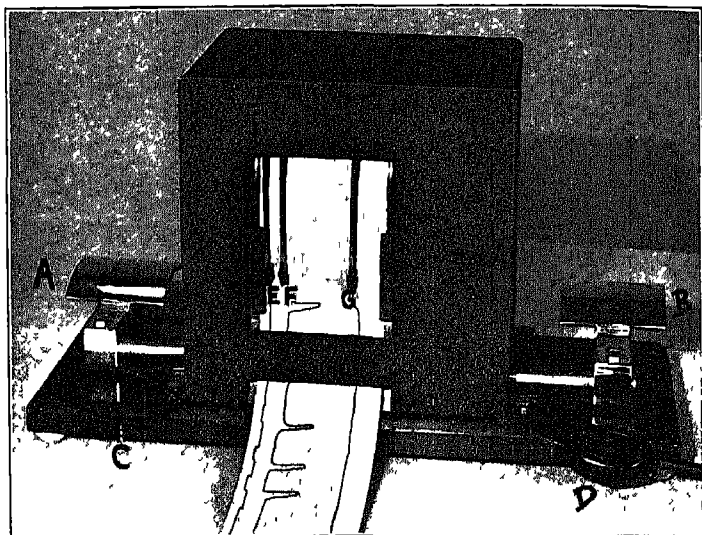


FIG 56 —Front view of association-motor apparatus. Right hand receptor (A) and writing lever (F). Left hand receptor (B) and writing lever (G). Cable (C) for recording reaction time by means of writing lever (E). Electric switch (D) for starting the drum motor which rotates at a set speed. The patient sits behind the apparatus with fingers resting on the hand receptors.

to the dynamic factors underlying the psychoneuroses. Luria's¹ method of combining Jung's word-association technique with voluntary and involuntary motor activity seemed to offer the best approach to this problem. The subject was given a stimulus word to which he responded

¹ Luria, A. R. *The Nature of Human Conflicts or Emotion, Conflict, and Will*. New York, Laveright, Inc., 1932.

with the first word that came to his mind and at the same time pressed downwards with his right hand while his left hand remained passive.

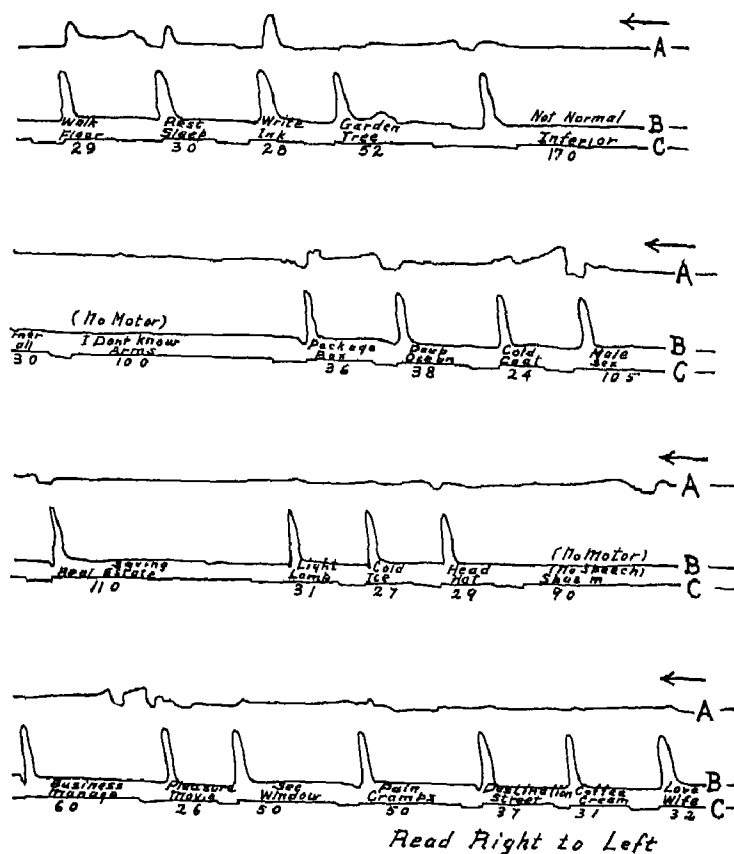


FIG 57—Parts of a record obtained from a case of hysteria showing disorganization caused by words "critical" to the patient's illness. Left hand or involuntary motor curve (A). Right hand or voluntary motor curve (B) with response words just below this curve. Stimulus words and reaction time in seconds (C).

Luria found that the emotion associated with stimulus words which were "critical" for the subject, interfered with the smooth carrying out of the set reaction. The

resulting disorganization was manifested by alterations in the reaction time, speech disturbances in the response word; irregularity of the right hand pressure and "overflow" tremors into the left hand curves

The reaction to each stimulus word may be graphically recorded by means of the association-motor apparatus, (Fig 56) developed by one of us after many modifications

TABLE X—PSYCHONEUROSES (84 CASES) AND CONTROLS (100 SUBJECTS)

Reaction type	Reaction time (in seconds)			Motor disturbance		Speech disturbance
	Neutral words	Critical words	Post-critical word	General %	Local %	
Anxiety 40	2 9	4 9	3 3	32	41	38
Hysteria 33	2 4	4 5	3 1	19	34	23
Obsessive-compulsive 11	2 1	4 0	2 6	25	43	20
Controls—100 subjects						
So-called "normals"	1 9	2 5	2 1	10	19	22

of the original Luria technique. This apparatus has been very useful as an aid in the study and treatment of psychiatric cases¹ The patients are more ready to accept conflicts discovered and demonstrated by this method A typical record is shown in Figure 57.

¹ Barnacle, C H, Ebaugh, F G, and Lemere, F Association-motor Investigation of the Psychoneuroses, *Am J. Psychiatry*, 91 925 (Jan) 1935

CASE 83 *Psychoneurosis, Hysterical Reaction Type*.—Man, age 54, married, office worker. Complains of numbness and *cramps in left arm and hand*. Slightly depressed with *inferiority feelings* and *insomnia*. Feels that he has been a failure in *business* and *marriage*.

NOTE: Greatly prolonged reaction time to critical words. Tension pretty well localized to *symptom* words. Motor disorganization most marked in left hand curve. Unable to make a motor response or associate to critical words "spasm" and "arm."

The results of a study of one hundred controls and eighty-four psychoneurotic patients is shown in Table X (p 596).

It will be seen that the controls were definitely better organized than the psychoneurotic patients. The cases with anxiety showed more general disorganization than the other reaction types. The tension associated with the hysterical and obsessive-compulsive reaction types on the other hand was fairly well localized to the "critical" words. The greatest disorganization in the obsessive-compulsive cases was found in the motor reactions.

Treatment. It is obvious that only an outline of treatment methods can be given. We will attempt to indicate a therapeutic approach which is in some sense applicable to all the neuroses. The plan of therapy is purposely elastic, for it seems to us that it would be a serious mistake for the student to attempt to practice by rote. Not only the personality of the patient but also the personal assets of the physician will determine many modifications in the line of therapeutic attack.

The student must remember that treatment of the neurotic patient, begins at the first instant of contact between patient and physician. Hurry, carelessness, impatience, unwillingness to make case notes, etc., not only deprive the psychiatrist of needed knowledge, but also prevent the establishment of proper relations with the patient, without

which nothing constructive can be accomplished. It is customary to state in text books that the attitude of the physician should be strictly an impersonal one. Fortunately, it is practically impossible to acquire such an attitude. It implies a remoteness and detachment or at best a cold intellectual curiosity on the part of the psychiatrist, while, in reality what is urgently needed is warm interest in the difficulties of the sick individual. Such interest is not maudlin sympathy, but it does have in it an emotional element, without which little progress can be made.

An important part of treatment is history taking. This may be conveniently divided into the family history, the history of the patient, the social-environmental history and the history of the neurosis. It is often good practice to devote a preliminary period to listening to the account of the nature of the presenting symptoms. The patient is apt to be tense, worried, anxious to unburden himself and he will obtain a certain measure of relief in being able to describe the troublesome symptoms. It is advisable to let the patient "talk himself out" not only at this time but also when he is giving the several divisions of the history. Should he become too circumstantial it will not be a difficult matter to turn him back to the main thread of the narrative. However, it is not the part of the physician to make too many suggestions or to supply missing links in the chain of the historical account. The details of the various aspects of the history need not be repeated at this point. It may be recognized as incomplete, unless the psychiatrist emerges from the interview or series of interviews, with a clear mental picture of the ancestry of the patient; of his previous life, in which there are always to be found one or more factors which have influenced the development of the neurosis, and of his social-environmental relations, in which likewise there are to be discovered mal-adjustments which may have a bearing on the pathological situation.

The history of the neurosis usually needs to be exhaustive. The patient should try to assign a date (which is usually not the actual date) for its beginning. The setting, immediately personal and environmental which existed at that time should be closely scrutinized. Each major symptom should be retrospectively reviewed from the time of its initiation and the incidents, within and without the patient, which heralded its appearance should be noted. The patient should be invited and encouraged to give his opinion concerning causal factors. "I don't know of any," etc., should not be permitted to pass unchallenged. He should be urged to recollect and to venture an explanation. All this is not analysis, it is merely history taking, but it is a kind of history taking which in our experience frequently discovers valuable clues. Whether or not an exploration of the unconscious mind is contemplated, there is always important material in the conscious mind or at least within the mental territory open to recollective effort, which may be had for the asking.

The next treatment step is the physical examination. There are at least three reasons why the physical examination should be thorough to the point of the employment of every useful diagnostic procedure, including the skill of the finished internist, instruments of precision and the clinical laboratory.

In the first place important somatic pathology may be and often is uncovered; in the second place the examination in itself, if it is a searching one, has a beneficial effect on the patient and in the third place it puts the psychiatrist in an advantageous and authoritative position for the future management of the case. Secure in the accurate knowledge he has acquired concerning the physical status, he will be able properly to weigh the numerous subjective phenomena which will present themselves.

The third therapeutic step concerns chiefly the psychiatrist. He has now obtained sufficient information to enable

him to formulate the situation and to decide on a concrete plan of attack. Many important decisions must be made. What is the apparent genesis of the neurosis? What are the relative weights of the psychogenic, somatic and environmental-social factors? Is the organic situation serious enough to indicate hospital or rest house treatment? Is the psychogenic aspect of a type which should be analyzed? Will an analysis other than a fairly superficial one, do more harm than good and had the physician better limit himself to simple explanation, persuasion and suggestion? Are the environmental-social elements serious and destructive? Are they capable of correction? etc., etc? If the psychiatrist cannot answer these questions, then his study of the patient has been incomplete and faulty.

The next step may be described as *the authoritative interview with the patient*. At this time the physician is not seeking information but is giving his conclusions. Rash promises should be avoided but lack of confidence is fatal. As much frankness as is permissible in the circumstances of the individual case is highly desirable. Details are not necessarily given but the patient should be made to understand the main issues. For instance, there are certain physical liabilities which need to be corrected. Or again, there are certain psychogenic situations, which need to be probed further—worked out with the patient so that he may understand their significance and be given the right attitude which arises from self-knowledge. Or again, there may be social-environmental frictions against which the patient has been blindly rebelling. It is necessary that he be given the correct point of view toward them, so that their deleterious effect may be minimized. If the patient is willing to cooperate, the physician believes that he will be able to cure him. Will he put himself unreservedly into the doctor's hands and do as he asks? In this way the ground is cleared for effective action.

The details of treatment are matters of universal medical knowledge. Some of them will be found useful in every case. Hospital or rest house care, rest in bed, scientific nursing, dietary control, massage, hydrotherapy, electrotherapy, occupational therapy, supervision of the patient's activities including visitors, correspondence, reading, etc., graduated exercise, tonic and in extreme conditions hypnotic medication, etc., etc. Above all, there must be correction of any *actual* organic pathology. The majority of these measures fall within the realm of ordinary medical practice. However, it must be stated that the way in which they are usually administered renders them ineffective and useless. There must not be anything careless, haphazard or uncertain about any detail of treatment. They are exact therapeutic procedures and if not given exactly and precisely, they not only lose their intrinsic curative significance but also the added psychotherapeutic value which they possess.

Psychotherapy. There is often a good deal of speculation as to what is said and what is done when the psychiatrist visits a patient, whom he is treating for a neurosis. Much of it comes under the head of psychotherapy. Psychotherapy may be broadly defined as an effort to influence in the right direction the attitude of the patient—to influence his attitude toward himself, toward his mental and physical processes, toward his environment. It is an effort to teach him to understand himself; his illness and the cause or causes of his illness whether this cause or these causes lie in his body, in his environment or in the superficial or deeper layers of his mental life. Those who appreciate some of the contributions of psychoanalysis to medical thought, cannot but regret the insistence of certain enthusiastic psychoanalysts of the Freudian school, to the effect that all useful psychotherapy is included in one system. Also it is hard to understand why the belief that a certain measure of suggestion enters into every method of psychotherapy, even

into Freudian catharsis, should be regarded as a reproach. It may be freely granted that mental catharsis faithfully attempts to minimize and even exclude direct suggestion but surely it cannot wholly delimit and exclude the interest of the analyst in the patient, nor can it prescribe and control the expression on the face of the analyst, the inflection of his voice, his gestures, etc. Perhaps it is fortunate that it cannot, since the indirect suggestion that flows from the intangible and imponderable rapport existing between patient and physician is of considerable therapeutic value. It is somewhat difficult to see how the hypothetical psychiatrist, thinking only with his *intellectual mind* and not at all with his *emotional mind* could really understand and help a neurotic patient. So, there is worth while psychotherapy in every contact between patient and experienced psychiatrist. Whether this psychotherapy will consist largely of cooperation and mutual understanding or persuasion or suggestion or superficial analysis or deep probing will depend not only on the convictions of the psychiatrist, but also and, perhaps, chiefly, on the needs of the sick individual.

Psychotherapy includes the more or less common sense methods evolved by the American School of Psychiatry, especially by Adolf Meyer. The procedures involved in this method are as follows:

1. *Establishment of Rapport between the Physician and the Patient*—This rapport, to be effective, must be based on a certain amount of respect and confidence on the part of the patient. It is best furthered by a careful investigatory program instituted by the physician at the first interview. *The more completely the history, physical examination, mental examination, serological, and blood tests are done the more the patient feels he can depend on the results of those examinations.* The physician must be quite frank in the matter. It is quite proper to tell the patient that before any final opinion can be given it is necessary to complete the study of his case. This causes no difficulty *provided the physician has a definite*

investigative procedure outlined and starts the patient on it at once. Any patient is willing to wait for accurate information before the physician begins treatment.

2. *Aeration or ventilation* of the conflict material presented by the patient may be carried out by means of Freudian catharsis as above, by means of direct interviews, by means of discovering and probing for such material from outside sources, by hypnosis, or by any other method. The important thing is that the patient is given an opportunity to discharge and bring out in the open all of those life experiences which have been causing him serious concern either consciously or unconsciously.

3. *Desensitization* is the procedure wherein the patient is required to face frankly the traumatic and unpleasant experiences of his past. It is brought about, in the first place, by causing the patient to discuss at frequently repeated interviews the conflict material as elicited above. These interviews are repeated until the patient can review these experiences without excess emotional concern. *Normal emotivity is to be expected, however, and it is not desirable, or necessary, to expect a complete loss of emotivity in connection with those events that should normally cause concern.* It is the excess concern that is pathological and requires to be relieved.

The term desensitization is also applied to the procedure carried out in relieving fear or other symptom manifestations in definite situations. Here the patient is required to face the situation repeatedly until he no longer manifests the symptoms in that situation, or until he is able to tolerate or ignore the symptoms if they occur. It is necessary, of course, to encourage and reassure these patients repeatedly while this procedure is carried out. *On such therapy a young girl who fainted every time she saw or heard of blood was enabled to completely overcome this tendency.* This procedure is especially valuable in the symptomatic treatment of fear reactions.

4. *Re-education* is carried out in connection with all of the above procedures. It is essentially the development of clear insight on the part of the patient into the mechanism of his illness, the establishment of new habits of response (as in desensitization) and the formulation by him of an adequate industrial, social, recreational, and activity program to ensure future stabilization

5. In addition to the above, it is often advisable to desensitize the patient's family to his illness and re-educate them into new habits of response toward the patient.

6 All contributing physical factors are corrected as far as possible Measures for their correction are instituted at the earliest possible interview and are utilized as psychotherapeutic aids

The above procedures, to be carried out intelligently, require that every individual case be formulated in terms of its causative factors, in such a way that those factors which can be modified are emphasized and become the center of attention Factors which can not be altered are recognized as such and the patient is trained to tolerate them We have found such procedures to operate successfully in the large majority of our cases

The principles of treatment for the neuroses as developed at Stockbridge by Riggs are as follows: The patient is given an opportunity to tell his story in detail Next, there is a thorough physical and mental examination followed by a frank discussion with the patient concerning his difficulties and the reasons for his maladaptation The patient is then informed of the plan of treatment and is given a daily schedule to meet his individual needs It consists of exercise, diversion and rest The keynote of the treatment is re-education. It stresses the importance of dominating the emotions and of utilizing the intelligence to guide conduct Efficiency is emphasized. The patient is impressed with the necessity of making clear cut decisions, at first in

trivial, later in great matters. The proper use of the mind is described. The harmful effects of worry, unnecessary hurry, inattention and self-pity are elaborated. They are manifestations of inefficiency. The patient is instructed concerning rest, which is not synonymous with sleep and is chiefly the temporary and volitional abandonment of responsibility.

Freudian Psychoanalytic Catharsis. A text book for students and practitioners is not a proper medium for the controversial aspects of psychoanalytic psychology and procedure. Admittedly, if psychoanalysis is to find a larger application it will be in the therapy of the psychoneuroses. In its present form it is scarcely applicable in the treatment of psychotics. In our practice, we have utilized some of its conceptions but, have not found many patients for whom we felt a formal analysis would be beneficial. It should be considered if the disability produced by the psychoneurosis is sufficiently disabling, if its genesis cannot be uncovered by other methods, if other methods of therapy are ineffective and if, it seems unlikely that the patient will be damaged psychologically by the procedure.

In this chapter there is only the space to indicate the bare outlines of technique. The student is referred to the vast amount of literature on this subject. An excellent short description is given by Jelliffe. It is generally agreed by psychoanalysts that the most suitable and hopeful material for catharsis is to be found among the neuroses. It is assumed that a careful history has been taken and an extensive physical examination made and these steps should give material aid in selecting suitable patients for this method of treatment. From the first, the analyst is on the lookout for *indicators*, word and conduct slips which may furnish him with clues concerning the nature of the hidden difficulty. In the beginning it will be necessary to explain the object of the treatment to the patient, i.e., a probing of the unconscious

mind which contains material which cannot be within the scope of his awareness or conscious mind. Embedded in this unconscious mind lies the source of his present illness. Some explanation of the nature and purpose of the unconscious mind is a preliminary requisite. White writes "the unconscious is our historical past." Bergson's description is as follows. "For our duration is not merely one instant replacing another, if it were there would never be anything, but the present—no prolonging of the past into the actual, no evolution, no concrete duration. Duration is the *continuous progress* of the past, which gnaws into the future and which swells as it advances. And as the past grows without ceasing, so also there is no limit to its preservation. Memory is not a faculty of putting away recollections in a drawer or of inscribing them in a register. There is no register, no drawer, there is not even, properly speaking, a faculty, for a faculty works intermittently when it will or when it can, whilst the piling up of the past upon the past goes on without relaxation. In reality, the past is preserved by itself automatically. In its entirety, probably, it follows us at every instant, all that we have felt, thought, and willed from our earliest infancy is there, leaning over the present which is about to join it, pressing against the portals of consciousness that would fain leave it outside. The cerebral mechanism is arranged just so as to drive back into the unconscious almost the whole of this past, and to admit beyond the threshold only that which can cast light on the present situation or further the action now being prepared—in short, only that which can give *useful* work. *At the most, a few superfluous recollections may succeed in smuggling themselves through the half-open door. These memories, messengers from the unconscious remind us dimly of what we are dragging behind us unawares.* But even though we may have no distinct *idea* of it, we *feel* vaguely that our past remains present to us. What are we in fact, what is our char-

acter, if not the condensation of the history we have lived from our birth—nay even before our birth, since we bring with us prenatal dispositions? Doubtless we *think* with only a *small* part of our past, but it is with our *entire* past, including the original bent of our soul, that we *desire, will and act*. Our past, then, as a whole, is made manifest to us in its impulse, it is *felt* in the form of *tendency* only a small part of it is *known* in the form of the *idea*."

The amount and character of explanatory detail must be gauged to suit the intelligence of the individual patient but in any event he should understand at least the aim of the analytic treatment. To avoid confusion and misunderstanding, it is also suggested that the patient be made to realize clearly, that the treatment is going to consume considerable time and that he need not expect advice or assistance concerning extraneous difficulties during the period of analysis. The treatment periods of an hour a day, six days a week, will consume several months and often a year or more. The thereapeusis is comprised in the understanding of the final interpretation and its essence lies in the application by the patient of the knowledge which he has obtained. The analyst strives for his objective by means of free association (spoken thoughts of the patient without marked concentration effort or concealment or discretion), occasionally word association and, perhaps, above all by dream analysis, which not only indicates the amount of progress but controls the entire analytic therapy. Dreams are considered wish-fulfilling, realizations of conscious or unconscious wishes. The dream as remembered by the dreamer after sleep has a "manifest" and a "latent" content. The manifest content is derived from the latent or repressed material and is made acceptable to the ego of the dreamer by such transforming devices as condensation (an abridgement process by which several elements of the dream, for instance, persons are condensed and appear to the

dreamer as one), displacement (the shifting of the emotional setting of one idea to a seemingly trivial one), secondary elaboration (the fitting together of the transformed dream material into a more or less homogeneous dream) and symbolization (letting one thing which in the dream appears in acceptable guise represent something else, which would, without disguise, be offensive to the ego of the dreamer)

Jung, in his psychology, views the psychoneurosis as an attempt on the part of the patient to solve his life problems, he lays less emphasis on sex interpretations and, he sees the dream as a purposeful attempt to find a solution of some working life problems of the dreamer

A critical point in the treatment is the management of transference, which is soon manifested by the patient and which is a sign and measure of resistance. In one sense, "transference, is the unconscious misidentification of the analyst, so that he (the patient) may behave and feel toward him in a way which satisfied the experiences and impressions which refer to another" (love or fixation object). The measuring rod of the analyst, which in a way is a prognostic indicator is the Oedipus Complex. In its character and strength should be determined the potentiality of breaking away from the father or mother fixation and entering into true heterosexual life. More broadly, it is a gauge of the degree of sociability or adjustment which is possible. The final stages of psychoanalysis concern themselves with the overcoming of resistance, and the leading of transference by the analyst into safe and useful channels, so that when the patient is ready for explanation, sublimation may be expected. If sublimation, which may be regarded as "the erection of higher goal, not a sexual one, to obtain which the energy of unobtainable wishes is utilized," is achieved eventually, then the cure is complete

Special Considerations. In the treatment of the psychoneuroses, while there is frequently much that is impor-

tant to be accomplished along physical lines, yet, the bulk of the therapy will be psychotherapeutic. Furthermore, psychotherapy based on an understanding of the fundamental psychopathology is generally available and hypnosis or suggestion reinforced by electricity and other devices need not often be employed. Symptoms removed in this way are apt to be replaced soon by others. Nevertheless, from time to time, in order to meet a difficult situation, to deal with a recalcitrant patient or an ignorant one, etc., these special methods of suggestion are permissible. In an hysterical young woman who was spreading a dermatitis by scratching, until there was danger of wide-spread infection, a few light hypnotic treatments stopped the difficulty. In a strong, young Pennsylvania German just above the moron level, there was a complete paraplegia of hysterical origin. The usual methods of psychotherapy had no effect on the palsy. The patient was then told when the physician visited him, that the doctor would not leave this time until the patient, not only moved the legs but was able to walk. After a careful explanation in simple language as to the nature of the paralysis, and demonstrations of passive movement of the legs against resistance, the patient was ordered to move the legs one at a time. The more the patient protested his inability to do this, the more authoritative became the command of the physician. Finally, voluntary movement of each leg was obtained with the patient in a reclining position. The same method was used to re-establish the function of walking, at first the patient being securely and then lightly supported on each side. In less than an hour the patient was able to walk clumsily and the next day he walked quite naturally. Mutism can sometimes be successfully dealt with in a single session on the basis of rapidly increasing persuasion and suggestion. In one instance, the patient is told how to place his lips and whisper. He is assured that the whisper has been heard

and so on. In some cases deafness yields to light gas anaesthesia when considerable noise is made as the patient emerges into consciousness.

Prevention and Follow-up.—No matter what be the method of treatment which is employed, it is to be hoped that the student will emphasize in his practice, the preventive and after-care aspects of the problem of the neuroses. Once familiar with the situations, innate and extraneous, variously combined, which precipitate neurotic states, then one will want to be on the watch for the presence of such situations, in all those with whom he comes into professional contact. They are dealt with in their incipency much more readily than later on, and, not infrequently a neurosis may be prevented by teaching a patient understanding of himself and his life situation. It goes without saying, that the individual who has had a neurosis, should not be considered cured merely because a cessation of symptoms has occurred, but he must be given the right perspective toward his experience and its causes. The wise and careful psychiatrist will also want to keep in touch with the patient, at least until he is solidly established on a secure mental and environmental footing.

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CHAPTER XI

PSYCHOPATHOLOGICAL PROBLEMS OF CHILDHOOD

By

LEO KANNER, M D.

Associate Professor of Psychiatry, Johns Hopkins University,
School of Medicine

Psychiatrists, until about three decades ago, were consulted mostly in cases of extremes and end-products of personality aberrations. Outspoken schizophrenic, manic-depressive and hysterical reactions were observed very rarely before puberty. Psychiatric occupation with children was limited almost entirely to the low grades of mental deficiency. No attention was paid to the common behavior problems of boys and girls. Their management was left in the hands of parents, teachers, clergymen, and sometimes the police. They were not looked upon as legitimate objects of medical curiosity. Whipping, scolding, sermons, bad marks in school, and the occasional prescription of tonics and sedatives exhausted the therapeutic resourcefulness available at that time.

The twentieth century has been rightly called the century of the child. At its beginning, the field of psychiatry was gradually broadened to include the milder personality difficulties of adults and the rank and file of behavior deviations of children and adolescents. The importance of scientific study and treatment of the psychopathological problems of childhood was recognized by psychiatrists in an increasing degree, and the appreciation of this importance was trans-

mitted slowly to other physicians, parents, teachers, social workers, and juvenile court judges. This change from almost complete neglect of the child to realization of the great value of child psychiatry was due largely to two significant developments: the introduction of a genetic-dynamic attitude and the spread of the mental hygiene movement.

The Influence of Genetic-dynamic Psychobiology.—As long as psychotic manifestations were regarded solely as diseases of the brain (with mostly unknown cerebral pathology), there existed little interest in the early evolution of the patients' personalities. Adolf Meyer's formulation of the psychobiological concept of man as a mentally integrated individual, discussed in a preceding chapter, shifted the emphasis helpfully from organs and their diseases to patients as improperly functioning persons. This logically whetted the appetite for the study of the personality development of the patients, of their abnormal functioning or behavior, and of their assets which might be used constructively in helping them to overcome their difficulties. Once the habit of dealing with "mental diseases" had been supplanted by the habit of trying to readjust maladjusted human beings, one no longer was restricted to the interest in those people whose maladjustments had assumed the proportions of full-fledged psychotic collapses. Any person, adult or child, "normal" or "abnormal," who presented any kind of personality or behavior problem, became entitled to psychiatric investigation and treatment. Just as the pediatric specialist treats a mild common cold as well as asthma and pneumonia, so the modern psychiatrist has learned to treat children with fear reactions, temper tantrums or food capriciousness, which may be as far from being symptoms or forerunners of a psychosis as an ordinary stomachache may be from being a symptom or forerunner of gastric cancer.

The Influence of the Mental Hygiene Movement.—In 1908, Clifford Beers, an energetic and enthusiastic graduate of

Yale University, who himself had gone through a psychotic experience, was led by Adolf Meyer to turn to mental hygiene and decided to devote his organizing talent to the betterment and prevention of mental illness. His book, "A Mind That Found Itself," the foundation of the Connecticut Society for Mental Hygiene, and the formation of the National Committee for Mental Hygiene (1909) ushered in a movement which has since then assumed international significance. In 1930, the governments of more than fifty countries sent their delegates to the First International Congress of Mental Hygiene held at Washington, D. C. The development of mental illness and delinquency was to be prevented through educational measures and the earliest possible clearing up of personality disorders, before hospitalization or penalization would become necessary. This attitude resulted in the desire to reach the individual during the formative years of childhood. In the course of time, it was learned that it was not desirable nor wise to think always in terms of future psychoses or criminal careers. Children's behavior problems came to be considered worthy of psychiatric attention for their own sake, because they existed and called for adequate guidance and not solely because of what might happen later in life.

In order to help the communities to achieve this purpose, the Commonwealth Fund, in 1922, established demonstration child guidance clinics in seven of our larger cities. By 1928, more than 500 mental hygiene clinics had been organized in this country, and at the present time more than 40,000 children are being examined each year. The principles of mental hygiene and child guidance have been adopted by many school and colleges, juvenile courts, parent-teacher groups, and the Child Study Association of America, which has parent education for its chief aim. Pediatricians have become eager to learn how to examine and handle the common behavior problems of children, and in recent years

psychiatric consultation service has been instituted in a number of children's hospitals connected with medical schools

Examination of Children Presenting Personality Disorders — Children, like all human beings, are complex creatures and defy any attempt at simplified reduction of their behavior to any one common denominator. Some physicians are wont to think in terms of somatic pathology only, they feel that their job is done completely if they circumcise masturbators, clip the tongues of stutterers, remove the tonsils of all types of misbehaving children, and prescribe sedatives for night terrors and general restlessness. Some people believe that the intelligence quotient explains all personality deviations of children. Some blame the environment for everything that goes wrong. To some, heredity and constitution serve as all-valid formulae. Others again are satisfied to lay all difficulties at the door of repressed sexuality or an inferiority complex. Insistence on any "one and only" cause, however, fails to do justice to the wide variety of factors that may, and really do, combine themselves to produce the multitude of personality disorders which we find in different children. A thorough investigation must, therefore, try to obtain in an unbiased manner all the essential facts actually operating in the individual case.

Every examination should be preceded by a clear account of the reason why help is desired. It is best to record *the complaint* verbatim in the exact manner in which it is offered by the informants, unadulterated by the translation into our own or anybody else's terminology. What is it that bothers the parents, the teachers, or the patient? How do they themselves feel about the difficulty? Are the elders sympathetic, annoyed, alarmed, do they make excuses, place blames, anticipate disaster? Do they have any set notions as to what they wish to be done? How did they handle the problem before they came to us? Does the

child himself feel ashamed, wronged, guilty, irritated, amused, or is he indifferent? Does he really wish to be helped? Under what special circumstances did the problem develop?

After obtaining the complaint, we are ready to acquaint ourselves with the child about whom the complaint has been made. It is essential that we become familiar with the main features of his biography, his physical condition, intellectual equipment, emotional reactivity, constitutional background, and the nature of his environment. Any work with children's personality disorders which fails to take all of these factors into consideration is incomplete and, therefore, frequently unsuccessful.

We do not know a child sufficiently unless we know his *life's history*. Attention should be paid to the mode of birth, developmental data, early feeding, habit formation, illnesses, operations and injuries with hospitalization and any other complications, changes of residences and schools and their effects, scholastic attainments and any other important events in the child's life.

Physical examination should be included in every psychiatric examination. The somatic factor plays an important part in the child's functioning and its evaluation. We know that a sick child may react differently from a healthy child. The effects of undernutrition, errors of refraction, and fatigue deserve careful attention. We know that certain diseases of the brain and the glands of internal secretion may be associated with more or less specific deficiencies or behavior deviations. We know further that emotional difficulties may find their expression in the form of somatic dysfunctions, such as vomiting, pain, tics, enuresis, blushing, pallor, breathholding spells, constipation, etc. There was a time when many personality disorders were laid at the door of so-called "focal infection" from abscessed teeth, otitis media, inflamed tonsils, appendices, and gall bladders.

Though each of these conditions should by all means be investigated and treated, we cannot afford to overlook the existence of other factors that may have contributed to the behavior problem for which help is desired. In recent years, especially in England, hypoglycemia, or an insufficient amount of blood sugar, has been considered responsible for a number of children's abnormal reactions, such as periodic vomiting, migrainous attacks, night terrors, car sickness, easy fatigability, and bedwetting. One is entitled to wonder whether or not hypoglycemia, where it really does exist, is a part manifestation rather than the cause of any of these disorders.

It is necessary to study the child's *intellectual endowment*. Standardized and reliable tests are available for this purpose. the Gesell, Kuhlmann, and Minnesota tests for pre-school children, and the Stanford revision of the Binet-Simon test for children of school age. By means of the psychometric rating we learn what a child can be expected to achieve at any stage of his development. Many pupils are accused unfairly of laziness or lack of ambition when in reality they do not have the capacity for competing with their classmates. The failure of others may be due to emotional and situational rather than intellectual difficulties. Sometimes circumscribed handicaps will be discovered in the course of the test, especially color blindness or specific reading or numerical disability. The degree of a child's intelligence should never be guessed or inferred from appearance or behavior but always measured with the scientific methods at our disposal.

The child's *emotional reactivity* is investigated by means of obtaining an account of his responses to various life situations. To what sort of situations does he react with fear, anger, jealousy, bashfulness, sullenness, boisterousness? In what manner does he give expression to these emotions? Is his general attitude one of aggressiveness, seclusiveness,

timidity, submissiveness? Is he cold or affectionate, happy or unhappy, appreciative or dissatisfied, demanding constant attention, sociable, sharing his toys with others, etc? Always specific examples should be given, which must leave no doubt as to the meaning of the descriptive terms. For instance, if a child is given to anger outbursts, the examiner should learn when and how they first began to show themselves, to what concrete situations he reacts with tantrums, what he does during the tantrums, how and with what results they have been handled by the family, and whether or not he reacts similarly when away from home, the patient's own attitude with regard to the tantrums should be elicited.

We wish to learn not only how the child reacts emotionally to environmental situations but also what the *environmental constellation* is to which he reacts. *Psychopathology is to a large extent the pathology of interpersonal relationships.* Children with different constitutional endowment grow up in homes and neighborhoods which from the beginning exercise a great influence on their habit training, type of socialization, degree of emancipation, attitudes and standards of living and behaving. Throughout childhood *the home* is the nucleus of the child's social life, there he emerges by degrees from the passivity of the neonatal period to a stage in which he becomes a domesticated member of the household and is gradually prepared for the tasks of communal adjustment. *Neighborhood* contacts with playmates and their families, through walks, visits to stores, and church attendance widen his social horizon. Then *the school* enters into his life as a powerful educational and socializing agent. Psychiatric examination must familiarize itself with the specific features of the patient's environment, the examples set and attitudes instilled by the members of the household and the child's relations to them and to his playmates, classmates and teachers.

Different children may react differently to the same environment. All men are not born equal. This is certainly true of the wide variations in their intellectual endowment. It is also true, more generally, of the sum total of human potentialities, of which we speak as man's *constitutional background*, the "stuff" of which he is made. This depends to some extent on the stock from which he originates. For this reason it is necessary to learn of the family's modes of reacting to life situations. There was a time when one also looked eagerly for so-called "stigmata of degeneration," all sorts of somatic deviations from the average, concerning the configuration of the skull, shape and size of the ears, height and width of the palatal arch, development of the genital organs, etc. We have learned to judge personalities from performance rather than from incidental "stigmata" but reserve the right to make a note of them in our examination, especially when there is a combination of several in the same person. In recent years, attempts have been made to correlate certain types of physique with certain types of personality make-up, this correlation, not yet demonstrated conclusively in adults, is certainly far from being obvious in children. We might say generally that constitution is that which a child has inherited from his parents plus that which he brings with him into the world as a unique "experiment of nature," an individual *sui generis*.

After a study of the patient's personality organization by means of an analysis of his biography, intelligence, habit formations, emotional responses, environment, and constitution, we are ready for a synthetic reformulation, or an understanding *diagnosis*, on the basis of the concrete data obtained in the examination. The diagnosis should be so expressed that it convey to anyone an understanding of what really is wrong and should be remedied and what can or cannot be modified in the individual case. One-word snapshot diagnoses do not convey that understanding. The

diagnostic synthesis should be a concise and logical preparation for the therapeutic program.

The principles of psychiatric treatment of children The essential principle is expressed in the following sentence *Psychiatric treatment is the sum total of efforts made in behalf of the adjustment of a child who presents any form of personality difficulty* This usually requires a number of well-defined steps work with the child himself, work with the family, sometimes work with the community, and specific supplementary therapeutic aids

Realizing that we deal with a maladjusted person rather than merely with a detached complaint, we try to establish in *the patient* a condition of security, comfort and well-being Any existing physical disorders should be remedied, regardless of whether or not they have any relation to the personality difficulty complained of. We try to gain the child's confidence, give him an opportunity to discuss with us his problems frankly and without fear of criticism or ridicule, and create in him a spirit of collaboration and self-confidence in his ability to overcome his difficulties If he is old and intelligent enough, we should ask him for his own remedial suggestions and invite his participation in the therapeutic program We try to correct any faulty attitudes and notions which he may have formed in connection with his problem. We then proceed to secure *the family's* cooperation We begin by formulating to the parents the nature of the existing problem concretely, clearly and tactfully, in simple language devoid of professional terminologies, avoiding unnecessary complications, and in an inoffensive manner which would assure acceptance. Every step in the plan of treatment should be made to appear logical, reasonable, and helpful There should be no argumentation Harmful superstitions, pseudo-medical and pseudo-psychological ideas should be done away with A way should be paved for the family to overcome excessive sternness, leniency, solicitude,

or neglect, unwarranted ambitions, and overprotection. Sometimes the personality difficulties of members of the household other than the patient will have to be included in the plan of treatment, if they interfere with the proper adjustment of the patient. We must often, besides the work with the child and his family, engage the help of *communal agencies*. We must frequently enlist the cooperation of the school. At times, when the home situation cannot be modified and is found to be disastrous to the child's development, boarding home placement must be considered. In some instances, institutional training may become imperative. After all these things have been considered and arranged, it is often advisable to employ *supplementary measures* of a medicinal or educational nature. The so-called star chart may prove to be helpful in cases of food capriciousness, enuresis, or temper tantrums.

The Scope of Child Psychiatry — Child psychiatry comprises a large variety of children's personality difficulties which have been variously classified. The field is so large that, in addition to the work to be done with children in their homes and regular schools, a well-equipped community nowadays provides special opportunities for different selected groups of problem children: child guidance clinics for disorders arising from faulty habit training and from improper interpersonal relations within the home or school, training schools for the feebleminded; hospitals or colonies for epileptic children, special classes adapted to the needs of physically or intellectually handicapped pupils, juvenile courts and correctional institutions for delinquent children, placement agencies for those whose problems can be solved best by the removal from their original environment to suitable boarding homes. Anyone interested in children's personality difficulties should acquaint himself through personal visits with the community facilities existing in their behalf and also with camps and other recreational centers which serve the healthy

child and often help to socialize the problem child. Efforts to improve the opportunities already in existence and to create new opportunities where they are needed are an important part of the duties of those engaged in any branch of psychiatry.

Some of the personality difficulties of children have been discussed in previous chapters of this book, in connection with similar reaction forms in adults. Some occur rather infrequently before the years of adolescence. We shall, in the following, center our attention more on the rank and file of children's behavior disorders commonly encountered by parents, teachers, physicians, nurses and social workers without, however, failing to refer to the others at least in passing.

PERSONALITY DIFFICULTIES FORMING ESSENTIAL SYMPTOMS OR SEQUELS OF PHYSICAL ILLNESS

Children, when sick, are apt to behave differently from the way they do when they are healthy. This may be due to the general discomfort and sometimes specific features of the illness, the patient's own personality make-up, and the management of the sick child on the part of the family, doctors and nurses. Spoiled child reactions, attention-getting devices, and hypochondriacal trends may be initiated or fostered by the bedside manners of oversolicitous parents or by physicians who blurt out their diagnoses and prognoses in the child's presence. Every illness, however mild, is therefore a potential breeder of behavior problems. Hence the calm, understanding and wise management of children during sickness and convalescence is an important part of the mental hygiene of childhood.

There are somatic illnesses in which the organization of the child's personality may be altered more or less characteristically, due to features inherent in the nature of the illness. This is true especially of the congenital or acquired

diseases of the *central nervous system* (e g , Mongolism, congenital syphilis, encephalitis, lead encephalopathy, meningitis, brain tumor, head injuries, certain epilepsies) and of the *glands of internal secretion* (e g., myxedema, cretinism, dyspituitarism, dysgenitalism). Intelligence, judgment, memory, and the general progress of maturation may be seriously affected.

Whereas in these conditions the congenital or acquired disorders are of a more *permanent* and sometimes progressive nature, there exist *transient* personality difficulties intimately connected with physical illness of limited duration. Delirious and stuporous reactions are more common in children than in adults. Febrile chills in children may sometimes be replaced by epileptiform convulsions. The irritability, excitability, sensitiveness and moodiness of choreic children call for especially skilful handling. It sometimes taxes the wisdom of parents, physicians and nurses to keep children with rheumatic and cardiac affections quietly in bed and free from exerting overactivity and temper tantrums. The marked restlessness and sensitiveness of girls during the period of pubescent hyperthyroidism call for judicious treatment.

This group of somatogenic personality disorders and, to a considerable extent, also the following group, should convince anyone who is open to conviction that the psychopathology of childhood is definitely *the domain of psychiatrically informed physicians* and should not under any circumstances be relegated to medically untrained persons. Good intentions and laudable enthusiasm cannot make up for lack of indispensable medical knowledge.

PERSONALITY DIFFICULTIES EXPRESSING THEMSELVES IN THE FORM OF INVOLUNTARY PART-DYSFUNCTIONS

This group, constituting a considerable and clinically conspicuous portion of the psychopathology of infancy and

childhood, is made up of localized functional disturbances seemingly limited to a specific organ or organ system. The essential uniting feature consists in the fact that, in spite of vast laboratory research, organic lesions cannot be objectively demonstrated. Psychiatric study has revealed that these disorders are bodily part-manifestations of psychopathological reactions involving the total personality of the patient. Hence they are best understood and treated not locally, not detached from a consideration of the person, but by means of studying the child in his entirety, with attention to his biographical, physical, emotional, intellectual, constitutional, and environmental peculiarities. Many of these conditions, however, may also be produced by actual organic disorders, and for this reason a careful medical investigation is always indicated.

Visceral participation in emotional responses is a normal phenomenon. The sigh of relief, loss of appetite in grief or excitement, blushing in embarrassing situations, and pallor in fright are matters of common observation. Under the stress and strain of unhappiness, frustration, inability to live up to unwarranted ambitions and expectations, feeling of insecurity, and other protracted emotional unpleasantness, the visceral participation may become intensified, attached to a specific organ, they can be automatized, and may lead a detached existence. The connection with the responsible disturbance may be fairly obvious at times. It was so, for instance, in the case of a twelve-year-old over-conscientious, normally intelligent, and physically healthy girl who took very seriously the teacher's remark that all children of the class would be promoted to junior high school not on their merits but more as a matter of routine. The others soon forgot this remark. But Catherine began to ponder over it, and, after promotion, felt that she was not ready for the higher grade. Every morning, before going to school, she was miserable and vomited her breakfast. She went to

the school authorities begging that she be permitted to repeat the preceding grade. This was finally granted, and the vomiting ceased on that very day and has never recurred since then. In most instances, however, the connection between the psychogenic organ-dysfunction and the etiological background is not so immediately simple and so readily removed and can be brought out only by means of adequate personality study.

Almost any organ system may occasionally lend itself for the expression of emotional difficulties. The central nervous system may respond with headaches, the circulatory system with blushing, pallor or palpitations, the digestive apparatus with anorexia, constipation, or vomiting, the urinary system with enuresis, the striped-muscle system with tics or general motor restlessness. We offer a case each of psychogenic constipation, enuresis, and tics as instructive illustrations.

CONSTIPATION

Habitual psychogenic constipation may arise from failure to establish in the child regularity of toilet habits, the child's refusal to go to the toilet as a part feature of general negativism and obstinacy, the absence of adequate toilet facilities at home or at school, and most frequently an atmosphere of parental overconcern over their offspring's bowel movements, sometimes reinforced by the dire prophecies of newspaper advertisements for cathartics. A thorough physical examination is always essential. Sometimes the finding of spastic colon calls for specific medication. Prevention and treatment of habitual constipation are based on the adjustment of the underlying personality difficulties, a well-balanced diet, regularity of feeding, sufficient exercise in the open, avoidance of overconcern, and allowing the child to go to the toilet at about the same hour every day at a time which is free from distractions and haste.

CASE 84 *Constipation in a ten-year-old girl as a reaction to frustration and jealousy and an attention-getting device*

Bernice was first taken to our clinic on October 18, 1933, at the age of ten years. Her mother brought her with the complaint that she had been chronically constipated for a little more than two years, she wanted immediate attention because of an "emergency," reporting in great alarm that Bernice had been without a stool for eight days and had wildly refused suppositories and enemas. She stated spontaneously that she was anxious to have the whole thing treated as a "physical" condition, explaining somewhat indignantly that the last of several physicians consulted had suggested that psychogenic factors might be at play. Bernice, in remarkable contrast to her mother's consternation, looked on smilingly and listened with obvious glee to the parent's frantic recitation.

Bernice, upon physical examination, was found to be healthy, except for slight underweight and the fact that her colon was filled with fecal masses. There was, however, no sign of spasticity of the colon, and there was no pain on deep palpation.

The child was kept at the hospital for two weeks. During that time, X-ray examination of the intestines after barium enema and laboratory tests of the feces confirmed the clinical impression that there existed no organic disturbance which could account for her "constipation." She was referred for psychiatric consultation, and in several interviews with the child and her mother the following facts were obtained.

Bernice was the only child of well adjusted middle-class parents. Her mother had had an unhappy childhood. She was the only one of an artist's six children who was not musically inclined. The others joined in nagging her and forcing her to practice piano which she disliked intensely.

She was not given an opportunity to develop her drawing abilities. She felt isolated and took refuge in household activities, trying to gain recognition at least as a "mother's helper." She was almost pedantically exacting with herself in her self-imposed domestic duties and anxious to be considered "perfect" in this respect, to make the others feel dependent on herself, and to be praised for her devotion to them. Her eagerness to do things "just so" assumed mildly obsessive qualities. As soon as she graduated from high school at 17 years of age, she was married to a man who was seven years her senior. She enjoyed one year of undisturbed bliss until Bernice was born. She then centered all her attention and activities on the child, through whose cleverness she once hoped to recaptivate her family's good graces. In spite of the mother's oversolicitude and overprotection, in which the father soon joined her, Bernice developed normally and was well adjusted. Early parental agitations over her feeding left no traces. Bernice entered school at six years and got on well there. Up until eight years of age, she was rightly considered a happy and normal child.

Bernice's mother could never bring herself to move any distance from her parents and siblings. She lived only a few houses away from them, in the same square. Her youngest brother was born at about the same time when she gave birth to Bernice. This child, Sidney, displayed unusual musical talent at an early age. When he was eight years old, the Conservatory of Music made special arrangements for his training and he had his picture in the newspapers. He was the idol of his family, and Bernice was barely given any notice. For Bernice showed no musical inclinations. The fact that Sidney did not do well at school, whereas Bernice always had good marks, was of no avail, for a "genius" could not squander his time on reading, writing, and arithmetic. Bernice's mother bravely tried

to convince her child that she was just as good as Sidney, but the note of disappointment was too obvious to escape the notice of her intelligent child. Sidney himself told Bernice that she was "a nobody" and treated her with contempt. When she told him that at least she was not "a dummy" at school, Sidney cried in a spoiled child manner and Bernice was severely reprimanded by her grandmother who supported Sidney's charges. At that time Bernice, who had always been a healthy child, was constipated for several days and for the first time the whole family really was aware of her existence. Cathartics were recommended, and inquiries about her health and her bowel movements came from her grandparents, uncles and aunts. The constipation continued and became stubbornly worse. Laxatives took no effect. After a while, suppositories ceased to do their duty. Finally even enemas were retained, their administrations became dramatic affairs, with violent struggle on Bernice's part and bribes, persuasion, threats and coercion on the part of her parents. Bernice was a "sick child," the whole family was concerned, people were nice to her, doctors were consulted, the novelty of Sidney's success began to wear off, and Bernice occupied the center of attention. She suffered no pain, went to school every day, and seemed satisfied in every way.

After a few days at the clinic, Bernice developed and maintained regular bowel movements without the aid of medicines, suppositories or enemas. It was found that she had remarkable drawing abilities and she was invited to participate in the ward decorations for the Halloween party which happened to coincide with her residence at the hospital. The newly gathered facts, obtained from Bernice and her mother, were discussed with them openly. Bernice, at the mention of Sidney's name, spoke of her years of jealousy, of her feeling of the futility of ever trying to please her family, and of the satisfaction which the family concern

over her constipation had afforded her. She was grateful for the suggestion that she be permitted to take a course in drawing at the Art Institute. Her intellectual assets and scholastic achievements were emphasized. She returned to her home as a "somebody" who no longer needed the "constipation" as a means of asserting herself in the eyes of her family. Her mother learned to think of her no longer as a rival of Sidney's. During the past 18 months since her discharge from the hospital, Bernice has never been constipated. She enjoys her lessons in drawing, in which she makes satisfactory progress. She is a normal and well adjusted child.

ENURESIS

Enuresis, or "wetting," is the involuntary passage of urine by children more than three years of age. Bedwetting is more frequent than wetting of the clothes in daytime, nocturnal and diurnal enuresis may be present in the same patient. Most frequently, habitual enuresis is due to inadequate habit training based on parental indifference or overindulgence, lack of opportunity to respond to the urinary urge, general emotional immaturity, or the faulty notion that a "weak bladder" or a "weak kidney" is responsible and nothing can be done about it. Moreover, a variety of conditions has been described as the actual, predisposing, or existing causes, such as external irritations due to phimosis, balanitis, vulvitis, itching sensations in the region of the genitalia, pin-worms, anatomical anomalies and inflammatory processes of the kidneys and bladder, occult spina bifida, nutritional factors, high acidity of the urine, and abnormal depth of sleep. Most of these conditions may indeed originate and maintain urinary incontinence and should be looked for and treated if present. To treat as a "habit" the enuresis of a child which is intimately associated with cystitis or pyelitis, is as grave an error as it

would be to treat psychogenically determined enuresis with drugs or catheterization. We do not treat enuresis, but the child who is enuretic. All physical defects should be remedied regardless of whether or not they are in any way connected with the wetting habit. The effect of the enuresis on the patient may be of great significance for his entire life situation and character formation. The conscientious child may develop a feeling of shame and guilt, especially if scolded and punished, and lack of self-confidence which may drive him into seclusiveness. The entire constellation is apt to bring about unhappiness and sensitiveness. Faulty notions should, therefore, be corrected. Scolding, shaming, punishing, and bribing should be discontinued. Maladjustment at home (bad sleeping arrangements, contrasting of siblings, etc.) and at school should be straightened out. The child's feeling of hopelessness or guilt should be replaced by one of self-confidence and security. Among the more specific measures, restriction of fluids a few hours before retiring is advisable. After finding out at about what time the patient usually wets the bed, it helps to wake him thoroughly about half an hour before the anticipated event and have him void. Cooperative children may be given a so-called star chart on which they are to paste a paper gold star at the end of a dry night. The chart introduces a play element, makes the child feel that he is definitely participating in the therapeutic program, and gives him visible evidence of success. Where there are no organic ailments to be attacked, the administration of drugs is uncalled for.

Encopresis, involuntary defecation, or "soiling," on a psychogenic basis mostly as a spite or jealousy reaction, is much more difficult to treat than is enuresis. Douglas A. Thom says. "One can only say that these cases call for a careful psychiatric examination by the best qualified person available. And it will often test all his skill and ingenuity

to understand the mental processes at work that result in such conduct."

CASE 85 *Enuresis, associated with thumbsucking and other habits, as expression of general emotional immaturity.*

Jean was brought to the clinic on September 16, 1931, at the age of twelve and a half years with the complaint of lifelong enuresis, thumbsucking, and irritability. Her parents were under the impression that she had a "progressive myopia" and was in danger of becoming blind

She was given a thorough physical examination. She was found to be essentially healthy, except for near-sightedness and orthostatic albuminuria. Her urine was normal otherwise. X-ray examination of the spine and cystoscopic investigation convinced the examining physicians that there existed no spina bifida nor any kind of abnormalities of the bladder. She was referred to an ophthalmologist, who prescribed fitting glasses for the correction of her refractive error and was able to assure Jean and her parents that he could see no evidence that there was any reason to anticipate progression of her myopia.

Psychometric rating gave her a mental age of thirteen and a half years and an I.Q. of 108. The child complained that she had not been given an opportunity to associate with children other than her brother and sister and said that she had come to consider the thumb which she sucked with great pleasure as "the only friend" she had ever had. She was very much ashamed of her enuresis, was dissatisfied with herself, and had an intense desire to be helped, though she was not certain whether anyone could ever help her. Her mother frankly stated that she did not expect Jean to overcome her difficulties.

The following history was obtained from Jean and her parents. Jean was the second of three children. Her father was born in Russia where as a youth he spent nine months in prison for being a socialist and later served one year in the

Imperial army. He came to this country in 1911 at the age of 23 years. At that time he was "nervous," complained of backaches and feared that he would become "crippled in the brain" because of frequent masturbation. He was a conscientious objector during the World War. He worked successively as a tailor, clerk, owner of a small grocery store, insurance salesman, bookkeeper, and again as a store owner. There was a long series of one financial misfortune after another, due partly to poor investments and partly to illness. Jean's mother was born in England and came to this country in 1910 at the age of 16 years. She was a conscientious, serious-minded woman and reacted in 1928 with a mild depression to poverty and her husband's sickness. Both parents were devoted to their children. Jean's older sister and younger brother were intelligent and well adjusted.

Jean, though never seriously ill, was a "thin and puny" child and therefore had always been treated as weak and delicate and not expected to do what the others did. Her habit training was neglected on this basis, she was allowed to be fussy about her food and escape any sort of responsibilities, and the regulation of her toilet habits was deferred until she would be older and stronger. She wet her bed and her clothes and sucked her thumb. When she was four years old and no improvement was noticed, her parents became concerned and took her on a tour from one doctor to another. One physician tied up her fingers, Jean worked hard until she pulled the bandages off and resumed her sucking. Another physician felt that the enuresis was caused by some anomaly at the neck of the bladder which was cauterized repeatedly for a period of four years. One physician advised to treat her refusal to eat by starving her for a few days, Jean noticed the strategy, fainted, and her mother gave in. Since these methods did not work, her parents began to "shame" her, alluded to the bad

odor of her soaked clothes and bed sheets, and scolded her all the time. As a result, Jean became sensitive, irritable, and impudent, and there was a marked slump in her scholastic performances. When she was nine years old, a physician made a diagnosis of progressive myopia and warned the parents that she might become blind. She was pitied accordingly and the nagging campaign was interrupted. Jean then added to her repertoire the habits of sniffing and of rubbing her finger around her mouth until her lips became sore.

Jean and her parents were informed of the results of the examination. A hopeful formulation of the child's difficulties assured greater self-confidence and a willingness to give up the previous pessimism. It was a revelation to Jean and her family that her enuresis was not due to bladder trouble, that her food capriciousness was not based on stomach trouble, and that her thumbsucking was not the result of the dysfunction of some diseased "nerves." Jean, after some initial reluctance, willingly accepted the interpretation of her habits as personal matters rather than affairs of her bladder, stomach, and nerves. She was relieved to know that she was not doomed to be blind. Her intellectual assets were emphasized, she was quite surprised to hear that she was normally intelligent, and the news gave her a great deal of self-assurance. Contact with children of her own age was initiated, first with just one or two girls of her own choice, and later she was sent to camp where she mixed freely with the other children. Her concern over her recently established menstrual periods, the nature of which she did not understand, was dispelled through clear explanation of its meaning. Her enuresis disappeared entirely on the day of her first visit to the clinic, in spite of the fact that its recurrence was expected and anticipated by her mother. She also gave up her habits of sniffing and rubbing. For a few months, she still continued sucking her thumb.

(at night only) and then ceased doing it altogether. Her school achievements showed decided improvement. Her eating habits became better. The only thing that was left of her former difficulties was some amount of irritability in an attenuated degree.

TICS

Tics or habit spasms are sudden, quick, involuntary and often repeated movements of circumscribed muscle groups, serving no apparent purpose. Blinking, grimacing, head shaking, clearing the throat, sniffing, and jerking the shoulders are the forms observed most frequently. Often several varieties are present in the same child, either simultaneously or successively. Tics must be studied for their setting and not only for the nerves and muscles involved. They may be residuals of intelligible actions and may originate as defensive movements against some constant irritations, such as a tight cap, tight suspenders, or an itching skin disease. The wrinkling of the forehead intended to adjust the cap, the lifting of the shoulder as a reaction to the unfitting suspenders, or the scratching to relieve the itching sensations may become habitual and be kept up long after the source of irritation has been removed. Imitation of others also plays a part in the etiology of tics. The habit, which has originally had a definite meaning, becomes detached from its primary purpose and is no longer useful in the economy of motility. This detachment or automatization takes place in the setting of environmental and emotional stress. The distinction from beginning chorea is not always easy, choreic movements are jerky, not restricted to a circumscribed group of muscles, and have a greater range of excursion. The more the child's awareness is directed towards the tics, the less are they likely to disappear. Parental admonitions are apt to make the patient more self-conscious and aggravate rather than relieve the

difficulty The same is true of massages, exercises before a mirror, or electrotherapy, all of which tend to center the child's attention on the tics. Faulty notions ("St. Vitus' dance," "nervous wreck," "bad habit") should be corrected. If the original source of irritation is still active, it should be remedied. Since tics mostly occur in children of school age, the patient is directly accessible to a discussion of his personality problems, which should be adjusted through collaboration with him, his family and, if necessary, the school authorities.

CASE 86. *Variety of tics in a ten-year-old-boy, fostered by constant parental nagging and anticipation of chorea*

Thomas was ten and a half years old when he was first brought to the clinic on October 28, 1932, because of facial tics of several years' duration, restlessness, irritability, nailbiting, nose picking, and unsatisfactory conduct in the classroom. He was obviously an unhappy boy who thought that he was seriously ill with "nervousness and St. Vitus's dance" and that he was treated unfairly by his parents and teachers who expected him to conform to the home and school regulations.

Thomas was found to be healthy physically, well developed and well nourished. There was not the slightest evidence of chorea, but a great deal of general motor restlessness. Psychometric rating showed him to be of average intelligence.

Thomas was the elder of two boys. Both parents were well adjusted. The father usually had a calm disposition but stuttered a little when excited and occasionally displayed facial tics of "twisting his mouth and nose." The mother had a tendency to spoil her children and permitted ten-year-old Thomas to crawl into her bed whenever he asked for it. Thomas' younger brother, Richard, three years old, was healthy and well behaved. Thomas had been an only child for seven years. About one year after he was born, his mother had a miscarriage at four months,

losing a pair of twins This made her feel that she would have no more children and she watched oversolicitously over her boy's health When about four years old, Thomas began to blink his eyes. It is possible, though not certain, that imitation of his father's blinking may have had something to do with this. The mother had a sister who had chorea at the age of 19 years The boy's blinking was immediately interpreted as the first sign of an "inherited" chorea A physician advised the parents to call his attention to his blinking any time he did it. This made him self-conscious and, instead of getting rid of his blinking, he added twitchings of his mouth and nostrils The doctor had said his condition was not choreic but might some day develop into chorea. The parents watched for other symptoms and were eventually alarmed by the observation of jerkings of the shoulder. Since their eternal "corrections," nagging, reminding, scolding, and promising rewards for improvement were of no avail, he was taken to another doctor who said it was the "beginning of St. Vitus' dance" and prescribed "nerve medicine." Thomas, then seven years old, gave up his blinking but began to turn his head around "as if he tried to get rid of a tight collar," bit his fingernails, picked his nose, and rubbed his hands over his mouth. He was sensitive, cried at the least provocation, and was generally restless and overactive. When his brother was born, the parents feared that Richard might acquire the same habits from imitation of Thomas' behavior, were forever after Thomas to take his medicine regularly, continued their "corrective" campaign, and would not let him be near the baby unless he mend his ways. They did not notice the discrepancy which consisted in blaming him for a performance which they definitely attributed to the existence of chorea Thomas was unhappy and made poor progress at school where his restlessness became annoying to his teacher and classmates His parents were frankly

disappointed and this added to the unpleasantness of the home situation.

Thomas and his parents were assured that he undoubtedly had no chorea and that, on the other hand, he was not a bad boy who went through his actions to annoy his parents. They were also informed about the striking observation that during the entire course of the examination he showed no sign of tics or overactivity when alone with the examiner and at ease but became tense and went through the whole scale of his performances as soon as either of his parents appeared on the scene. The invitation to take a part in working out a more satisfactory remedial program was greeted by Thomas with great enthusiasm. The campaign of "corrections" was to be discontinued immediately. He was permitted to play with Richard to his heart's content. The "nerve medicine" was discarded. The school teacher was informed about the situation and her annoyance was replaced by a desire to help Thomas. The boy was no longer to sleep with his mother. His parents were to pay no attention whatever to his tics. Thomas was to join the Y M C.A. and to establish healthy associations with other boys. He was to be given a manicuring set which would help him to develop pride in the appearance of his fingernails. He ceased biting his fingernails within a few days. His parents were cooperative and carried out the recommendations as best as they could. There was a marked improvement in his scholastic achievements. His restlessness decreased by degrees. He no longer expressed the desire to sleep with his mother. He enjoyed his new Y M C.A. associations. Within three months, his tics disappeared entirely. He was a happy self-confident boy. His conduct at school in the January, 1934, report was "moderate" instead of the previous "deficient" mark, in June, 1934, it was "good," and after that it has always been considered "excellent." He is now a well adjusted boy of thirteen.

years of age, who has had no tics for a period of more than two years

PERSONALITY DIFFICULTIES EXPRESSING THEMSELVES
CLEARLY AS WHOLE DYSFUNCTIONS OF THE
INDIVIDUAL

The first group dealt with behavior problems arising definitely in connection with physical illness. The disorders treated in the second group were organ dysfunctions of psychogenic origin. The difficulties discussed in a third group appear more obviously and unmistakably as problems of the patient as a person rather than an organ. They comprise a wide range of disorders: intellectual inadequacy (so-called mental deficiency), unhealthy emotional responses (fear, anger, jealousy, spite reactions), thinking difficulties (daydreaming, lack of attention and concentration), anti-social trends (disobedience, lying, stealing, truancy, cruelty, destructiveness), sexual disorders (masturbation, heterosexual and homosexual practices), disorders of sleep (insomnia, nightmares, night terrors, somniloquy, sleepwalking, grating of the teeth), faulty feeding habits, habitual manipulations of the body (nailbiting, thumbsucking, nose picking, hair pulling, etc.), attack disorders (convulsive phenomena, breathholding spells, syncopal attacks, migraine), the minor psychoses (hysteria, hypochondriacal trends, obsessions and compulsions), and the major psychoses (schizophrenia, manic-depressive psychoses).

Some of these personality problems have been discussed at some length in the preceding chapters. In them the reader has been made acquainted with the adjustment difficulties arising from mental deficiency. He has been introduced to the study of the major psychoses which are exceedingly rare in children and, if present, do not differ essentially from these reaction patterns in adults. He has also had an opportunity to learn of the main features of

epilepsy, hysteria, and the obsessive-ruminative tension states (so-called psychasthenia) The discussion of these conditions will therefore not be repeated

UNHEALTHY EMOTIONAL RESPONSES

Reactions of jealousy, anger, and fear are the commonest forms of overt emotional disorders of children

The two principal sources of the arousal of *jealousy* in children are the arrival of a new baby and the practice of contrasting siblings with one another. A wise parent will prevent the development of this reaction by preparing the child for the coming of the new baby, by making him participate in the plans and arrangements, and later by having him take some minor part in the care of the infant, making that part a privilege and pleasure and not a disliked obligation. Both children should, as time goes on, be treated without a spirit of favoritism or of creating in either sibling a feeling of being contrasted advantageously or disadvantageously

Anger often is expressed in the form of breathholding spells by infants in the first two or three years of life Afterwards children may react to thwarting of their wishes, criticism, and desire for self-assertion with sullenness and crossness or with dramatic temper tantrums

Faulty habit training is a prominent factor in the etiology of breathholding spells and temper tantrums Tantrums are often copied from other members of the family who lack emotional self-control. With very few exceptions, we find them in spoiled, stubborn, negativistic children of overindulging, oversolicitous and overprotective parents The habit is maintained and fostered by alarm displayed by the parents and their tendency to "give in." Thus the child learns to use his tantrums as a means of obtaining his wants and dominating the family. The treatment should aim at proper training, good physical health (sick

children are more apt to be irascible than healthy children), and removal of environmental distress and bad example. The individual outbursts should be met with calmness and gentle firmness, and the child should learn that he will not obtain his wants by means of tantrums. Sermons are useless. Indifference is a far more effective disciplinary method than anything that places the child in the center of attention. It is downright harmful to react to tantrums with similar emotional scenes, whippings, cold water poured over the little actor (unfortunately a common procedure), or signs of consternation.

CASE 87. *Breathholding spells and temper tantrums, associated with feeding difficulties, in a parentally mismanaged two-year-old girl.*

Nancy was brought to the clinic at the age of 28 months with the complaints of breathholding spells, temper tantrums ("she swings herself around, stamps her feet, clenches her fists, and grits her teeth"), refusal of food and vomiting when forced to eat. Her mother spiced her report with peculiar notions which were a mixture of superstitions, misapplied medical terminology, fear of "heredity," and projection onto the child of her own difficulties. The parents' management of the child was dictated by the mood of the moment and consisted of whipping, putting her to bed or in a dark closet, having her sit in a chair for various lengths of time, pleading, acquiescence, the father's leaving the house in anger and slamming the door, and the mother's breaking down and weeping.

Nancy was found to be in good physical health. She was very unruly in her mother's presence but when left alone in the waiting room, she played nicely and quietly with the toys. When called to come to the office, she entered calmly and willingly and cooperated most satisfactorily. She had a mental age of two years and six months.

Nancy was the only child of "nervous" parents. Her father, a 27-year-old airplane mechanic, "had no patience with the baby, could not stand anything the baby did, hollered at her, shook her, then said he felt sorry for it." Her mother, a 24-year-old high school graduate "got all shivery and shaky when she got into a real argument, which happened often." There were many instances of lack of emotional control in the maternal branch, expressed mostly in the form of temper outbursts and vomiting spells. Nancy's mother frequently responded with headaches to any sort of unpleasant experiences.

Nancy was born normally. Soon after her birth, her mother was operated on for rectocele and cystocele; she was in bed for six weeks during which the father took care of the baby. Nancy teathed, walked and talked at the proper time. When she was one year old, she "chewed on anything she could get hold of, gnawed the paint off her crib, and dug a hole into the wall putting the plaster into her mouth." She had chickenpox at 13 months, whooping cough at 16 months, impetigo at 17 months, and acute sinusitis and rhinopharyngitis, pin-worms, slight pyuria, and mild acidosis at 18 months.

Obviously a great deal of work was to be done with the parents. Through clinic visits and with the help of a social worker, their faulty notions were discussed with them and corrected, because of them the child had been subjected to strange practices. Thus the mother had been worried because Nancy did not cry enough when a few months old and, fearing that she did not sufficiently exercise her lungs, had beaten her every day to make her cry. Though the child did not wet her bed, her mother picked her up every night and carried her to the toilet because she feared "inheritance" of enuresis which she herself had had until the onset of menstruation, she thought that sometimes Nancy's eyes were puffed and "knew that kidneys have a

direct bearing on the eyes" These misconceptions and many others had to be removed. The parents needed and were given help in developing more stable emotional attitudes and habits. Adequate recreational outlets were provided for them, they had previously never left the home in their spare time because they would not entrust the care of the child to anyone else: "Nancy could not get along without me (the mother), she is too dependent on me." The methods of punishment were utterly discouraged, so was also their tendency to frighten the child on many occasions. To keep her from going out into the street, they had told her that an automobile would hit her and she would die and go down in a big hole where nobody would ever see her again, this had made such an impression on Nancy that she was preoccupied with the idea of death and, instead of her usual prayer, said, "If die go down big hole." Greater regularity of feeding, sleeping and elimination was recommended. The parents were presented with the helpful pamphlet, "The Child from One to Six, His Care and Training" (Publication No. 30, U.S. Department of Labor, Children's Bureau, 1931) Under the changed regime, Nancy ceased to fuss over her meals, was permitted to sleep through the night without being picked up, dropped most of her negativism and had no more breath-holding spells nor temper tantrums

At the age of two years and nine months, Nancy stuttered for a brief period. Her mother handled the problem much more calmly and wisely than she had handled Nancy's problems before. She took her to the clinic and was advised not to make an issue of the child's stuttering but to listen to her patiently. The stuttering disappeared within a few weeks

About a year later, Nancy and a little playmate, a three-year-old boy, were found by Nancy's mother with their genitals exposed and inspecting each other. The mother,

even though horrified at first, acquired sufficient self-control to avoid dramatics; with better supervision, the incident was not repeated, probably also because the childrens' curiosity had already been fully satisfied.

Nancy is now four and a half years old. She is a well behaved child who eats and sleeps well, plays well with other children, and has no temper outbursts of any kind. The contact with the clinic and excellent rapport with the social worker have helped not only the child but also her parents, especially the mother.

Fear and Anxiety.—The normal, well-trained child is not fearful. He has learned to recognize real dangers and to avoid them cautiously. Fear of imaginary perils is acquired through faulty education and parental example. A child's fear of thunderstorms can almost invariably be traced to the mother or an aunt or grandmother in the house. The custom of frightening children into obedience by shutting them in dark closets or threatening them with the ragman or policeman is a frequent source of unjustified fears, the commonest among which are fear of the dark, pet animals, "ghosts," sickness and death, kidnappers, and strangers. The treatment is directed toward the correction of faulty notions and practices, such as fostering the child's apprehensions by taking him into the mother's bed or leaving a light on in his room during the night. Where there is real justification for the fears, special measures must be taken to remove the disturbing factor from the child or the child from the disturbing environment.

Anxiety attacks occur mostly in the evening or at night and are characterized by sudden terror, palpitations, and acute fear of death. They often begin after an operation, especially one with ether anaesthesia. The treatment calls for a good knowledge of the patient and his environment and is governed by the specific factors involved in the individual case.

CASE 88 *Fear reactions in a nine-year-old girl, caused by the pranks of a neighborhood bully*

Mildred was brought to the clinic on March 18, 1931, at the age of nine years, because of intense fear for which her parents had no explanation.

Mildred was in good physical condition, except for slight under-nutrition. At nine years and one month, she had a mental age of nine years and eight months, an I Q. of 106.

It was learned that Mildred was the older of two children of stable parents. She developed normally and went through whooping cough at one year, scarlet fever at six years, and tonsillectomy at seven years without any difficulties or complications. She got along well at home with her parents and her brother, and at school with her teachers and classmates. A marked change in her behavior began in the autumn of 1930, when Mildred was eight and a half years old. She became restless, cross, irritable, and extremely fearful. She lost her appetite, presented a feeding problem, was wakened by the least noise at night, cried easily, would not go out of the house to play with other children, often refused to go to school, and her work became so unsatisfactory that she was not promoted at the end of the term. All this was in marked contrast to her previous attitudes and performances. She complained of pain in her neck and burning of her eyes. She was an utterly unhappy child. Neither the parents nor the teachers could explain the child's reactions and Mildred herself, when asked any questions, would break down and cry.

Mildred was given an opportunity to talk about herself and her fears. It was learned from the child that her difficulties had begun when a "bad boy" moved into the neighborhood, who delighted in playing pranks on her and scaring and threatening her. One evening, when she came home from her music lesson, he suddenly jumped at her from a dark

alley, grabbed her new hat and ran away with it, then dropped it in a mud puddle and trampled on it. He threatened to beat her up if she would tell anyone of what had happened. There were also unmistakable obscene implications in his threats. After that, he considered her his regular prey, noticing that she was afraid to complain about him.

The best plan would have been to arrange for psychiatric examination and treatment of the bully. But he came from a family of which cooperation could not be expected. But the boy, who was a coward at heart, was called to the school principal's office, confronted with Mildred, and given a warning. From that time, he left Mildred alone. Mildred's fear reactions and the lack of appetite, restless sleep, crying, and crossness, all of which were the results of her fearful preoccupations, disappeared over night. She again went out to play normally and her school work improved quickly.

CASE 89. *Anxiety attacks with fear of death, mistaken for heart disease, in a twelve-year-old girl*

Margaret was brought to the clinic upon the recommendation of her family physician, with the complaint that she had daily attacks of shortness of breath, palpitations, and fear of death.

She was given a thorough physical examination and was found to be essentially healthy. There was not the slightest evidence of heart disease or any other ailment that the parents feared might be responsible for her condition. She was given a psychometric test which proved her to be of average intelligence.

Her attacks had the following background: Margaret had always been treated as a "delicate child" who tired easily, wet her bed until the age of eleven years, was fussy about her food, and was spoiled by her grandmother and later by her mother. In May, 1934, towards the end of the school term she worried about the possibility of failure in promotion and

became sensitive, irritable and excitable. A physician advised tonsillectomy, which was performed under ether on July 10. She dreaded the idea of "being put to sleep" and wondered whether people ever failed to wake up from the effects of the anaesthetic. All went well for a month, except that she was greatly disappointed that, being a "convalescent," she could not visit her grandmother as she had done regularly every summer during the school holidays. On August 10, her stepfather remarked that it was exactly a month after the operation which seemed to have a wonderful effect on Margaret. On the same day, her mother did not give her the requested permission to go to the library, which precipitated a regular temper tantrum. About twenty minutes later, the child suddenly felt as if her knees were giving away, ran to the bathroom, threw cold water on her face, and asked for ammonia. Her mother became alarmed, put Margaret to bed, summoned her husband from his office, and a doctor was called. The doctor said the pulse beat so fast he could hardly count it and that the child had a serious "heart condition." The frightened parents called in three more physicians who hurled at them the "diagnoses" of valvular disease, paroxysmal tachycardia, and possibility of adrenal tumor, all in Margaret's presence. She was kept in bed for two months, was not allowed even to turn over in her bed alone, received high enemas, ice applications to her chest, and was given digitals, quinidine, thyroid, iodine, arsenic, luminal, sedatol, and bromides. In spite of all this, she had more and more attacks in which she had palpitations, complained of shortness of breath and pain on the slightest touch anywhere, had "smothering feelings," could not stand any noise about her, and was afraid she was going to die. Her condition became so bad that she had as many as three or four attacks daily, usually towards the evening before she went to sleep. In the intervals she thought of herself as a desperately sick girl whose days were numbered.

Margaret was the younger of two girls. Her father was an irresponsible man, the "black sheep" of a wealthy family, a fact, which his wife did not discover until after the wedding. They had met when she was not quite sixteen and he a soldier in the U. S. Army during the World War. He gave her two children but never even thought of supporting his family. After five years of married life, when Margaret was one year old, her mother finally left her husband, went to work and had her children raised by her parents on a North Carolina farm. The father disappeared and was never heard of since then. When Margaret was six years old, her mother remarried and took the children to live with her in Washington, D.C. The stepfather was a stable, good-natured, and intelligent accountant whom both girls fondly accepted as a father. Margaret's mother, ever since her disappointment with her first marriage, was "very nervous all the time, got choky when she spoke, had to stop and swallow, sometimes got a down and out feeling as if something terrible was going to happen, felt shaky in her knees and inside." Margaret's sister, Dorothy, between eleven and thirteen years of age, went through a period of "nervousness," when she would not eat nor feed herself, shook her head, chewed on her clothes, and grated her teeth in her sleep.

The nature of the difficulty was discussed with Margaret and her mother and stepfather. For the first time since Margaret's first attack, the parents heaved a deep sigh of relief upon learning that the child was not an invalid nor doomed to be an invalid. The child herself received the news with a great deal of joy. All medication was to be discarded right then and there. She was no longer to stay in bed nor to be treated as a sick child. She was, after a few days of gradual adaptation to normal life, to return to school and participate in the games and recreations of her friends and classmates, both of which things she was anxious to do.

At the same time, better management of her feeding was discussed in detail with her parents and herself. Her mother was to go to the school and work out a plan with the teacher to help this normally intelligent girl to "catch up" with the class. Both Margaret and her parents cooperated splendidly. She has had no more anxiety attacks since she left the office. She began to eat well, is now doing well at school, enjoys a normal play life, and has lost her irritability and sensitiveness.

THINKING DIFFICULTIES

Children are often referred for psychiatric examination with the complaints of *inattention and lack of concentration*. This difficulty may be due to a variety of factors. Children who do not see or hear well cannot "attend" and "concentrate" properly, most modern schools have special classes for the conservation of sight and hearing in which expert teachers do justice to the pupils' limitations. Any type of physical illness may affect the child's alertness, this is also true of overwork with inadequate recreational opportunities. Intellectual retardation with insufficient grasp of that which is being taught is often mistaken for inattentiveness; appropriate grade adjustment will restore the attention and concentration by giving the child a comprehensible goal and modes of its pursuit which are commensurate with his learning capacity. Sometimes lack of interest in certain subjects or scholastic work in general may be responsible, we then must find the reasons for the child's lack of interest. Pre-occupations are another common etiological factor; they may have for their contents domestic excitement or unhappiness, sex fancies in older children, daydreams and, in rare cases, obsessive thinking. This type of behavior calls for a thorough study of the child and his environment, collaboration with him, his family and his school teachers, and an adjustment which would tend to straighten out the diffi-

culties of the home situation and to lead the child's interests and abilities into channels of organized and supervised activities

ANTISOCIAL BEHAVIOR

The commonest forms of children's antisocial behavior are disobedience, lying, stealing, destructiveness, cruelty, truancy from school, and running away from home

Several factors may be involved in the etiology of stealing. lack of early training regarding property rights, loose social standards in the home, intellectual inadequacy with inability to grasp the concept of individual ownership, the desire of an unpopular child to gain friendship and recognition through distribution of gifts among the playmates, spite, jealousy, and vindictiveness. The treatment of the stealing child depends a great deal on the motives, the child's personality, and the nature of the environment. Detailed readjustment and reeducation of the child, work with the adults who are active in his management, and frequent follow-up contacts are essential therapeutic steps.

Disobedience may be the result of parental inconsistency based on thoughtlessness or moodiness, dissension between the parents about child training in general, excessive leniency, undue sternness, or the unreasonableness of the orders given. Almost every child goes through a *period of resistance* or negativism during the third or fourth year of life, this period requires especially judicious management.

Lying mostly originates in three types of situations: self-defense, imitation of adult behavior, and the desire to receive the attention and admiration of playmates.

Truancy is based on dislike of school because of intellectual difficulties, the fear of being punished, berated or ridiculed before the whole class, the influence of playmates, and parental attitudes which encourage frequent absences from school. Sometimes dire necessity, such as inability to pro-

vide proper clothing, forces poor parents to keep their children at home

Destructiveness may be due to clumsiness, impatience and haste, mechanical inadequacy, curiosity, anger, revenge, jealousy, or cruelty. Cruelty must always be looked upon as a serious indication of personality and environmental difficulties, to be treated with no lesser care and expertness than one would treat pulmonary tuberculosis or rheumatic endocarditis.

Running away from home may be an emotional reaction to disagreeable domestic situations (unjust treatment, threatened severe punishment, brutality, of an alcoholic father); it may be due to longing for adventure if home life is too monotonous and emotional stress is an added incentive. Vagabondage and aimless drifting is found among epileptic, hysterical, schizophrenic, postencephalitic, and feeble-minded children and adolescents

Thorough, objective, and unprejudiced information about the personalities, life histories and environmental backgrounds of the patients, knowledge of their difficulties, acquaintance with their assets, clear and logical recommendations made on the basis of this knowledge, and a sense of civic responsibility are the psychiatrist's important contributions to the understanding and treatment of juvenile delinquents and their delinquencies.

CASE 90 *Stealing as spite reaction of an eleven-year-old boy rejected by his mother*

Howard was taken by his parents to the Juvenile Court because of stealing and disobedience. The judge referred his case for psychiatric examination. The probation officer to whom the investigation of the situational background had been assigned obtained the following facts. Howard was the oldest of three children, all boys. His father had been raised very sternly by a rigid, tyrannical uncle who at the same time entertained high professional ambitions for him.

He did indeed very well in his studies which were interrupted for a few months by typhoid fever and appendicitis when he was eighteen years old. After one year at Cornell University, where he took up Agriculture and Forestry, he joined the Marines (during the World War). He did not return to his studies, much to his uncle's dismay, and married, misrepresenting to his wife his financial status, his employment situation, and his university connections. Howard's mother was a milliner prior to her marriage. She came of a wealthy family and did not need to work, but she liked to bask in the glory of her financial independence, derived a great deal of satisfaction from associating with a group of Greenwich Village artists and wished to prepare herself for a vocal career. She had always been an emotionally unstable pseudo-intellectual, never quite able to maintain peace with her family excepting her father whom she adored. It was a great shock to her to discover soon after her marriage that her husband was not the settled, well-salaried and economically secure university graduate that he had told her he was. Her relatives suggested that she leave him. But she was pregnant at the time. Her father gave her money to have an abortion performed. This she did after her hope that her husband would at least try to dissuade her did not materialize. But he found a position which he told her was a permanent one and would enable them to establish an adequate home. She was happy until she learned that the position had been only a temporary one and she again found herself with child. Her parents refused to have anything to do with her and did not give her the money which she requested for another abortion. Howard was the result of this pregnancy. The mother had had to give up her millinery work, her associations, and her ambition to become a singer, she had lost her family's sympathies and backing, and was tied permanently to the father of her unwanted child. Her husband showed little affection towards the end of her

pregnancy Being used to the comforts of higher middle class home life, she found herself in dire distress and misery All this culminated shortly after Howard's birth in an acute manic psychosis which lasted several weeks Ever since her recovery she hated her child intensely She sent him off to whichever relatives wanted to have him for as long as they wanted to keep him When he was at home, he heard nothing but nagging and scolding, never a word of love or encouragement. The father was indifferent to the whole situation. When Howard was three years old, his brother, Walter, was born. The mother centered all her affection on Walter Howard was considered as a reluctantly tolerated accessory, if he was considered at all He made every effort imaginable to win his parents' praise by doing errands and assisting in household tasks but received no recognition for his helpfulness and was constantly "corrected" and chided because he might set a bad example for Walter and for George who arrived one year after Walter's birth

Howard remained passive in this setting for about nine years Then he began to rebel. He gave up trying to please his mother as an impossible task He could expect no help from his father. His brothers, having their mother's full protection, teased him and helped to make life miserable for him. He decided to deserve his punishments and beatings to which he had become callous by that time He neglected his scholastic work He played truant occasionally. He stayed out late at night. His mother then locked the door and expected him to sleep on the porch glider regardless of the weather, he, in turn, went to neighbors who put him up in their home for the night, for this he was beaten severely and the neighbors were accused of interfering with his mother's disciplinary methods. Then Howard took to stealing. He never took anything at school, from stores, or from other people's houses. But he stole money from his mother. He stole all those items which

were valued by her or by his brothers. Sometimes he sold them, sometimes he just threw them away. His mother triumphantly pointed out to her husband and anyone else who wanted to listen that her prophecies had come true, that she had noticed the boy's criminal propensities ever since he was an infant, and that there was nothing good in him. The more she threatened to have him "put away" in a reformatory, the more did Howard steal. Finally his parents took him to the Juvenile Court and requested that he be committed to a correctional institution.

The situation was investigated. It took several weeks to ascertain the facts underlying Howard's stealing and other difficulties. He was given a physical examination and found to be healthy. He did not cooperate well at first. The psychiatrist and social worker seemed to him to be just two more people who would tell him how bad he was. In his psychometric test, he had an I.Q. of only 86. But his pre-occupations with other things and his poor effort were so obvious that the test was repeated at a later time when his confidence had been gained, he then had an I.Q. of 95. Howard was disappointed that he was not sent to a reformatory; anything seemed to him to be better than his home. Though his mother had come with the hope of getting rid of him, it took a long time to obtain her consent for his placement in a boarding home. She could not understand how anyone could possibly be interested in this depraved delinquent boy. She would not permit her husband to assume even the slightest financial responsibility for the boarding home care. Her consent was finally secured after many difficulties and after Howard had acted as if he were in the process of setting fire to the house. Psychiatric examination and treatment had meanwhile been provided for herself. Howard was placed with an intelligent, stable, understanding, and sympathetic family. His first request that he made there was that they call him Robert instead of Howard,

he did not even wish to be reminded of his own home by the mere sound of his own name. His stealing ceased promptly. His behavior since the day of his placement has been most satisfactory. The new neighborhood necessitated transfer to another school where no one knew of his "badness"; he has done well in his behavior and studies since the day of the transfer. Howard comes willingly to the clinic once every month. He is a much happier boy and, as he gains distance from his days of domestic misery, he even begins to try to understand his parents better and to forgive them though he "cannot forget."

SEXUAL DISORDERS

Children's sexual interests and performances range from normal and legitimate curiosity, developing gradually and common to all youngsters who are intellectually capable of any inquisitiveness, to instances of coarse heterosexual and homosexual practices. Good example, wise supervision, and proper information are the best prophylactic measures against early sexual maladjustment. Adequate sex education requires frankness, tactfulness, and a large dose of common sense. The child's questions should be answered truthfully, yet in a form which is fully adapted to his age and degree of comprehension. Any intelligent child whose parents make a mystery and indecency of something natural and decently biological is in danger of satisfying his curiosity in an undesirable manner (distorted or unnecessarily obscene information obtained from playmates, inspection and manual exploration of genitalia, "peeping," and even attempts at intercourse). Bad example, refusal of the parents to deal openly with the question, and sometimes criminal sexual assaults by irresponsible adolescents or adults are the main sources of sex delinquency in children. Feeble-minded girls must be guarded with particular caution because of their

lack of judgment, easy suggestibility, and inability to appraise the possible consequences.

Masturbation—There are few issues more misunderstood or more unwisely managed than the problem of masturbation. Quack literature, the traditional attitude handed down from generation to generation, and even physicians' misconceptions have set forth false ideas concerning this practice, giving rise to the belief that it leads to degeneracy, nervous disorders and insanity along with a host of other dire possibilities. There is no evidence whatever that such sequels occur. Masturbation is not at all uncommon. Inquiries made by M. J. Exner and K. B. Davis have shown that between 60 and 90 per cent of college trained men and women remembered having indulged in this habit in their early years. The treatment of masturbating children must begin with the remedy of all local disorders in the region of the genitalia. The clothes should be fitting. Excessive fondling and excitation on the part of the parents, siblings or servants should be discouraged. Emotional balance, physical hygiene, and healthy sleeping arrangements should be instituted in the home. Mechanical restraint is an unnecessary hardship and often useless because it is aimed at the habit and not at the child. Beating, shaming, nagging, castration threats, pleading and bribing should be discontinued. The child should receive adequate sex information commensurate with his age, grasp, and degree of curiosity. He should not be put to bed before he is sleepy and ready to retire, nor should he be permitted to remain in bed unoccupied after he wakes in the morning. Most important is the need of enlightening the child and his parents about the nature of the act. Current faulty notions must be corrected. The terrifying anticipation of impending ruin as a result of the habit makes life miserable for the child and his family and must be radically removed. Much alarm and worry, much morbid self-observation, many deep-rooted personality

disorders could be prevented or alleviated if such dangerous superstitions, much more harmful than the habit itself, could be eliminated as soon as possible. A healthy program of work, recreation, association with coevals, and sleep should be arranged and the child should be reasonably and unobtrusively supervised. Supervision, however, is something altogether different from spying upon the child and expecting him to masturbate *a priori*. He should not be given an opportunity to *sense* an atmosphere of fear, suspicion, or hostility.

CASE 91. *Masturbation in an eight-year-old girl of superior intelligence with unsound ideas about the consequences.*

Helen was brought to the clinic on April 16, 1932, with the complaint of masturbation which had been practiced for about four years; her mother also reported frequent nightmares, one instance of sleepwalking, headaches, fear of the dark, and inability to get along well with other children. Her parents were alarmed over her masturbation which had become the source of daily agitations. "We have punished her for it, whipped her, made her do without things, promised to pay her if she didn't do it, told her that it will give her trouble later, that she will suffer in later life."

[Upon examination, Helen was found to be healthy, except for refractive error, functional systolic murmur, and mild vaginitis. At eight years and eight months, she had a mental age of eleven years and four months; her I Q was 131. She had the vocabulary of a fourteen-year-old child. She gave expression to many fears and worries which were obviously reflections and elaborations of her parents' dire prophecies about the results of her masturbation. She feared that at the age of puberty she would have to have her face lifted because of the effects on her physiognomy, that she would become feeble-minded and have idiotic children, that she would have to undergo a gynecological operation. She kept worrying about the quality of her scholastic work and

watching for the first signs of intellectual deterioration in herself. In consequence, her work really did suffer because of her constant self-consciousness and preoccupations.

Helen was the older of two children of a United States Army captain. Her father was a calm and stable man. Her mother, a former school teacher, had some mild personality difficulties at the time of her marriage but adjusted well in the economic security of military life. Helen's brother was a healthy boy of five years. Helen was born in Minnesota. Her father was then transferred to Georgia, then to Texas, then to China, then to Maryland, and then again to Georgia where he expected a new order to leave for an unknown destination.

It was learned that her masturbation had started while she was in China. Her father was on duty during most of the day and her mother was engaged in social functions. She was left alone with a native servant whose language she did not quite understand. In her solitude she discovered the pleasures of auto-eroticism and soon she began to indulge almost continually. Her parents' consternation, scolding, punishing, attempts at bribing, and warnings about her future made her irritable, produced occasional temper tantrums, and helped her to develop fear reactions and nightmares. A physician's assurance that she would "outgrow" the habit and prescription of a sedative gave them not the slightest satisfaction. When they left China, the habit had assumed almost the character of a compulsion. There was a slight improvement when they came to Maryland and Helen acquired a few friends at the price of frequent gifts; she had no experience in playing with other children and had to buy the companionship of coevals in order to get them to play with her. She had hardly begun to feel at home in her new environment when, at the end of a year, her father was transferred to a Georgia post. Helen was very unhappy about the disruption of her new friendships. She kept writing letters and sending gifts to the little girls in Maryland

but received at best a short card of thanks. She felt that it was useless to look for new friends because of the probability of further transfers, and again masturbated excessively.

Her refractive error was corrected with glasses, and her headaches disappeared. Her vaginitis was treated. A radical revision of the unsound ideas about the consequences of masturbation was brought about in Helen and her parents. The child's fears, no longer nourished by parental stimulation, were easily removed. Her high intelligence rating was emphasized as proof that she had not suffered mentally. She was to be given clothes which should not fit too tightly and thus produce local irritation of her genitalia. She was to be sent to bed when she was tired and sleepy and awakened early and made to get up immediately. All this was to be done without verbal or other reference to the habit. She was to be sufficiently and pleasantly occupied during the day. Upon the clinic's recommendation, the father's superiors arranged for his continuation at his Georgia post for several years. This gave Helen a sense of greater stability and worthwhileness of making new friends. She joined a group of Camp Fire Girls and soon adapted herself nicely to the other children. She was taught to develop a greater interest in her younger brother who was equally intelligent and old enough then to be a little companion. Her masturbation ceased within less than 24 hours, never to be resumed within the three years since she was first seen at the clinic. She was sent to camp every summer and enjoyed the experience. Her irritability and nightmares disappeared together with her masturbation. She does excellent work at school where, at eleven years, she attends the sixth grade.

HABITUAL MANIPULATION OF PARTS OF THE BODY

Parents are often worried about their children's habits of deriving pleasure from activities, such as thumbsucking, nailbiting, nose picking, ear pulling, scratching, hair pull-

ing, and the like. Newspapers and even medical journals contain advertisements of all sorts of mechanical restraints or bitter tinctures to be applied to the hands to prevent their being conveyed to the mouth; their application introduces parental agitations (children rarely fail to offer resistance) and spite or guilt reactions on the part of the victims

Thumbsucking—There is no cause for parental concern if a healthy and well-developed infant sucks his fingers. The significance of correcting the habit lies in the prevention of the child's carrying over into later years exquisitely infantile modes of reactivity with concomitant or resulting personality disorders. Mechanical restraint or application of bitter substances increases, instead of reducing, the problem by unduly centering the whole family's attention on the sucking, introducing an element of force, and usually ending in the child's return to the habit as soon as the restraint is removed. Punishment, nagging and threats should be avoided. The child should be kept pleasantly employed with toys which interest him and provide ample manual occupation. He is less apt to suck when playing with other children. Nursery schools are therefore decidedly helpful. If he is found with the finger in his mouth, it is advisable not to refer directly to the habit but to change the situation indirectly by offering him some toy or occupation which he is likely to accept. In every case an adequate program of personality and environmental adjustment is of paramount importance.

Nailbiting is often an expression of uneasiness and tenseness. It is one of several forms of motor discharge of inner tension. Experience shows that this habit is difficult to overcome. The treatment should begin with the removal of the causes of the tensions responsible for the origin and maintenance of the habit. Appeal to the child's pride is often a valuable therapeutic factor, the child is given a

manicuring set and assumes the responsibilities of its regular use. Occupations and toys which really intrigue the child and healthy associations with other children are of essential assistance in the treatment.

CASE 92. Thumbsucking in a six-year-old boy, fostered by maternal agitations

Lester was first brought to the clinic on November 30, 1932, with the complaint of persistent thumbsucking since infancy, associated with scratching of his face with the other fingers of the same hand. His mother was obviously alarmed and disgusted. She had tried all the mechanical devices on the market, painted his thumbs with bitter substances, threatened to cut off his thumbs, refused to speak to him for days, scolded, nagged, bribed, and taken him to innumerable doctors (whose advice she ignored if it did not coincide with her own opinions). Lester was spoiled without mercy. If, on rare occasions, his mother did not immediately comply with his wishes, he went to his grandmother and, presto!, he had what he wanted.

He was found to be in good health. There was no evidence of spastic colon or any other physical disorder. Congenital strabismus had been corrected by an operation when he was five years old. His I.Q. was 100. Though he was cooperative, his general behavior showed a considerable degree of general immaturity.

Lester was the older of two children of highly intelligent, cultured, and economically well situated parents. His father was a calm and stable man. His mother, an only child, had herself been spoiled and treated inconsistently. She was a nurse before her marriage. His sister was a bright and healthy four-year-old girl. Lester was raised with a great deal of maternal oversolicitude. Early breath-holding spells were interpreted as certain evidence of "concussion of the brain," mild gastrointestinal upsets were considered as first indications of the "inheritance" of a

maternal great-aunt's cancer, and failure to have the number of stools postulated by his mother led her to make the "diagnosis" of spastic colon which to her meant a serious and life-long affliction

His mother, after much argumentation on her part, was finally convinced that there was nothing wrong with Lester's body, that his early breathholding spells were not organic cerebral convulsions as she had believed, that there was not the slightest trace of suspicion that he had inherited cancer, and that he did not have spastic colon. The domestic management and habit training of the child were discussed in detail with both parents and the grandmother. An attempt was made to alleviate the mother's alarm about Lester's thumbsucking and she was advised to discontinue the mechanical devices and application of bitter substances. The whole affair was talked over with the child, who was eager to cooperate. On their return visit, his mother was much less emotional but asserted that there had been no improvement in spite of her strict adherence to our recommendations. When Lester was seen alone, he kept waving his hands before the examiner, it was thus noticed that strips of adhesive tape had been applied to the thumbs and must have been removed shortly before coming to the office, Lester had been forbidden to say anything about it but managed to convey the message by attracting attention to his thumbs with the remnants of adhesive substance which apparently could not be washed off in a hurry. His mother was ashamed of her obvious dishonesty and never again resorted to similar tactics. Within less than a month, Lester ceased sucking his thumbs altogether. His mother became much more honest not only with the clinic but also with herself. Realizing that it was a little beyond her power to give up completely an attitude of six years' duration, she decided to enter Lester in a private boarding school. Within the last two years,

Lester has done very well there, has never sucked his thumbs, and has become much more mature in every respect. He likes the school and enjoys his home visits during holidays.

SLEEP DISORDERS

The commonest complaints are those of refusal to go to sleep at bedtime, restlessness during sleep, and waking up at night crying and demanding that the parents take the child into their bed. This behavior is often a part manifestation of a spoiled child reaction. Sometimes it is due to various fears, especially fear of the dark, robbers, or kidnappers. Restless sleepers are for the most part also overactive and easily excited during the day. The nocturnal fidgetiness appears as an attenuated continuation of the child's diurnal reaction tendencies. Therefore the treatment, instead of immediately resorting to sedative and hypnotic drugs, must attack the factors and situations which have driven the child in the direction of hypermotility. We may find upon examination a general emotional and habit immaturity as the result of improper training, or the child may be under a heavy strain due to domestic or scholastic difficulties which call for adjustment. The occurrence of nightmares, night terrors, and sleepwalking indicates a study of the dream contents, the child's diurnal preoccupations and fantasies, the environmental constellation, physical condition, and any specific events or experiences that may have had a more or less direct bearing on the child's emotional difficulties responsible for the sleep disorder.

EATING PROBLEMS

Children's food capriciousness has been the crux of many parents and of all physicians who treat children. The so-called "nervous anorexia" may express itself in a variety of forms: refusal to eat practically all food; eating under certain conditions only (drinking water from a bottle only,

having someone count or tell stories, taking food from a certain person or in a certain place only), eating small amounts at a time ("getting filled up too quickly"); making up between meals for food refused at meal time; eating too slowly, being "particular" about food (eating certain dishes only and refusing others)

Another type of eating problem, so-called *pica* or *perverted appetite*, may be of great significance for the development of the indulging child. The complaint centers around the fact that some children, usually in the first three years of life, eat everything they pick up, dirt, polish, ashes, paper, coal, hair, wool, cotton, gnaw paint off the furniture, and dig plaster out of the walls and put it into their mouths. Aside from the aesthetic and educational implications, *pica* is one of the commonest factors in the causation of lead poisoning in children. For this reason and also because of the nutritional disturbances and secondary anemia which often result, the habit should never be treated lightly. Close supervision and adequate habit training should be instituted.

Feeding problems usually arise in children of oversolicitous and overprotective parents. They may be associated with gagging or vomiting when food is forced into the child, this, in turn, adds to the parental consternation. The food capriciousness may be, more specifically, one of several manifestations of the contrariness of a spoiled child, it may be due to desire for attention, utilization of the meal time for the purpose of dominating the household, self-defense against overfeeding by mothers who want their babies "nice and plump," and imitation of adult patterns. In addition, excitement, unhappiness, haste, and irregularity of meals are apt to decrease a child's appetite. Prophylaxis and treatment are based on the same principles: physical examination and remedy of any existing ailments including special allergic food idiosyncrasies if present, judicious management

of any tendency to constipation, regularity of meals both as to time and place, appetizing and well-balanced food served in not too large quantities in clean containers on a clean table; knowledge of the quality and quantity of food which the average child is required to consume, teaching of good eating habits at the proper age, abstaining from the prolongation of breast and bottle feeding beyond the period in which these methods are natural, avoidance of oversolicitude and overindulgence; absence of haste; introduction of a brief period of rest between exciting play and the meal, giving no food between meals, desisting from quarrels and other emotional scenes at least in the child's presence, agreement between the parents as to his training, removal of any domestic or scholastic strain from which the child may suffer; setting a good example at the table, and making the child feel that the parents' part consists largely in providing and preparing the food, whereas the consumption is his own concern not less than theirs

CASE 93. *Feeding difficulties with gagging and vomiting in a four-year-old girl, a spoiled only child, associated with enuresis, temper tantrums, and habitual constipation*

Florence was brought to the clinic by her mother on November 22, 1933, with the following complaint "She does not eat. She does not eat vegetables, she does not eat meat. She goes spasmodically. She will eat nothing but oatmeal for weeks, then she'll go on toast. She eats very little candy, she loves dates, she loves pecans, the other nuts are too hard for her. She'll take milk at school (private kindergarten) but we can't induce her to take milk at home, only on her cereals. She takes her orange juice when she feels like it. She drinks plenty of water. I don't force her because forcing does not do her any good. She gags frequently if she takes anything into her mouth that she does not like. In intervals of about three or four times a year, she vomits violently. She used to vomit more frequently,

about once a month. Maybe that was from an overloaded stomach." The child was forced to have afternoon naps; when, after a long struggle, she fell asleep, she slept from three to four hours and fought wildly when put to bed at night. She wet her bed every night (Mother: "I have whipped her for it but I could not break her, and I promised her almost everything under the sun to get her to stop it"). She had temper tantrums in which she "threw herself on the floor, stiffened herself out and screamed." Since earliest infancy, her bowels had been "kept open" by milk of magnesia, castoria, and enemas, on the supposition that she was "chronically constipated." The grandmother, for reasons unknown even to herself, insisted that the child had a "growth in her rectum." The two servants were virtually made slaves to Florence's whims.

Florence was the only child of hard-working, fairly well-to-do parents. Her father was 41, and her mother 35 years old at the time of her birth. Both had been married previously, and their first and childless matrimones had been terminated by divorces. The father, who was the head of a prosperous and busy detective agency, was "extremely nervous and excitable" and devoted what little spare time he had to doting adoration of the child. The mother worked daily in her husband's office; she always complained of a "weak stomach" and vomited very frequently, sometimes every night for a whole month, but had "no time" to consult a physician. The care of the child was left largely to the maternal grandmother. The three adults spoiled Florence in every way imaginable.

The child had had a difficult start in life. She was born prematurely at eight months through Caesarean section, was asphyctic for almost three days, had icterus neonatorum for a week, did not take nourishment well and was slow in gaining weight. When she was one year old, her mother had to undergo a sterilizing gynecological operation which made

the parents realize that Florence would remain their only child.

Upon examination, Florence was found to be an essentially healthy child. Her mental age coincided exactly with her chronological age of four years and two months. She cooperated well when away from her mother but was very trying, stubborn, wilful, and had temper tantrums in her mother's presence. She was admitted to the hospital for a week, in order that better habit training might be instituted and taught to her parents and grandmother. During the first three days, her mother insisted on staying with her, with the result that the child ate poorly, vomited, had tantrums, wet her bed, and her bowels did not move. When her mother was finally persuaded to leave the child entirely to the care of the physicians and nurses, Florence's meals were put before her and she was left to feed herself. The first day she ate very poorly and cried on the slightest provocation. After that, she ate very much better, gained weight and partook well of vegetables and cereals that she had consistently refused at home. She was taken to the toilet after breakfast and her bowels moved adequately without the help of cathartics or enemas. At first she tended to cling to the nurses and would play with other children only when an adult sat down and supervised things. Later she began to play more spontaneously and seemed much less wilful. She became very easy to manage and gave evidence that she would respond readily to habit training in a normal environment.

The parents and grandmother learned their lesson. When Florence went home, the hospital type of management was adhered to. The child ate normally, had regular bowel movements, and ceased to have tantrums and to wet her bed. Her family is very enthusiastic about the change which had taken place in the child (and in themselves). The mother, no longer worried about the child and induced to find suitable

recreational outlets for herself and her husband, has noticed great improvement in her own eating and her own vomiting has disappeared

DISORDERS OF SPEECH AND READING

Speech disorders range from total lack of capacity for verbal symbolization in the lowest grade idiotic child to the hasty, cluttering speech of persons of sometimes very high intelligence.

Mutism, or the absence of articulate speech, is most frequently due to congenital or early acquired deafness; meningitis, scarlet fever, and typhoid are the main causes of deafness beginning in infancy and early childhood. Deaf-mutes constitute about 0.6 to 0.7 per cent of the total population of the U.S.A. They can, and should, be trained in special schools or classes to acquire education commensurate with their age and intelligence, prepared for vocational adjustment, and taught how to read lips and articulate. Modern methods are tending to do away with sign language.

Delayed acquisition of speech occurs in retarded children but is also observed in children who are otherwise normal and well developed. One should never diagnose intellectual retardation on the basis of failure to articulate at the expected age only.

Faulty articulation, so-called stammering, may be due to local disorders of the mouth and throat, intellectual retardation, or poor training with "baby talk." The local conditions must be straightened out, retarded children adjusted at school, the use of baby talk discontinued. In view of a widely believed popular notion, it is necessary to emphasize that "tongue-tie" is extremely rare and that indiscriminate "tongue clipping" to treat or prevent stammering is a barbarous atavism. In many of the larger cities, the schools provide special classes for adequate speech training of children with faulty articulation.

Stuttering is speech of a halting, hesitating nature, with repetition of the initial sounds of a word or sentence. Articulation and phonation are as a rule not impaired. Most stutterers experience no difficulties when they sing or whisper. It has been estimated that nearly a quarter of a million children in the United States are stutterers. Boys are much more frequently affected than girls, this is also true of the other types of speech disorders. In many children, stuttering is associated with early attempts to change their original lefthandedness to the enforced use of the right hand. The treatment of stuttering is one of the most difficult tasks challenging the skill of the child psychiatrist. It requires a thorough study of the patient's personality and environment and of the onset and particular mode of the stuttering difficulty. The child and parents must be desensitized with regard to their alarm often shown considering notions of "heredity," "hopelessness," or "brain disease." The domestic atmosphere must be cleared of the habits of deploring and pitying the child in his presence, interrupting him impatiently, teasing, ridiculing, shaming, scolding, or even beating him. The child's self-confidence, which has often been shattered by nagging and unsuccessful methods of "breaking" him from his stuttering, must be restored by instilling optimism and making him sense an attitude of understanding, patience, calmness, and helpfulness.

CASE 94 *Stuttering and headaches in a nine-year-old boy, son of a stern, tyrannical father, himself a stutterer.*

George was brought to the clinic on November 21, 1932, with the complaints of stuttering, headaches, restlessness, and poor progress at school. He had stuttered for six months, the father "tried to break him by making him stop," often using his fists or the razor strap as a means of emphasis. He was found to have infected frontal sinuses which explained his headaches. At nine years and four months, he had a mental age of ten years and six months, an I Q of 113. He

had been mildly enuretic until seven years of age. He was constantly contrasted to his disadvantage with his youngest sister: "She should be the boy and he the girl." He did not stutter in the least during the entire examination nor during a later interview in the playroom on the same day. He hopelessly declared that he was a bad boy and could never please his father, no matter how hard he tried.

George was the third of four children. His father, 45 years old, had had an unhappy childhood, being raised at first by a mother who was a "religious fanatic" and psychotic towards the end of her life and, after losing both parents at the age of six years, by a despotic, unrelenting, theologically unbridled foster-father. He was whipped brutally until one day in despair he beat up the man and was ordered off the place. After a short experience as a prize-fighter, he married at eighteen and settled down as fireman and engineer for the railroad. He was a quick-tempered man, went through an episode of two years' heavy drinking, had frequent headaches associated with a refractive error, stuttered occasionally, and was always very severe with his children, beating them unmercifully for the slightest misdemeanor. George's mother, also 45 years old, was a submissive person who accepted her husband's domination and even his scorn for the church in which she was raised (she was Methodist, while he, originally a Seventh Day Adventist, had come to identify religion with superstition and brutality because of his own life experiences). George's oldest sister, 25 years old, a meek girl, lefthanded, stuttered at twelve years for a period of six months; she reluctantly obeyed her father's prohibition to go out with young men. The second child, 16 years old, highly intelligent, in the second year at college, had chorea at twelve; she was mistreated by her father because she had a will of her own and demanded the degree of freedom usually granted to decent girls of her age. The

youngest child was a four-year-old girl who was treated inconsistently, mostly spoiled.

It was with great difficulty that the father, on the basis of his own early experiences, could be made to see the ill results apt to arise from excessive sternness and cruel enforcement of his perfectionistic demands. Once he had seen the point, he tried to cooperate as best as he could, with occasional relapses based on the great difficulty of changing completely the attitude of a lifetime. George's sinuses were treated in the Nose and Throat Department of our hospital. When he was brought back to the clinic on February 4, 1933, his conduct and scholastic performances had improved considerably. He had been promoted to a higher grade and moved from the lowest (third) to the highest group within his class. He had stuttered much less. The social worker took an active interest in the family, with the result that the father's attitude towards his oldest two girls became much more helpful and lenient. They were permitted to invite decent young men of nice families to come to their home. George's headaches became better and better in the course of the treatment. There were occasional relapses in his stuttering. In the summer of 1934, his parents sent him to visit relatives who treated him kindly. He has not stuttered at all since that time. His father still occasionally "hollers" at the children but, since the beatings have been discarded, they take it good-naturedly, they have come to like and respect him much more than they had when they dreaded his cruelty. The contrasting between George and his youngest sister has been discontinued. They are now a happy and congenial family.

Specific reading disability, dyslexia, or congenital word-blindness, is a condition which deserves to be known better than it generally is. There are normally intelligent children who cannot learn to read with the usual methods taught in our schools. Since reading is an essential part of the

curriculum, the failure of these pupils is most disturbing and causes parents and teachers, if they do not understand the situation, to consider these children unfairly as "lazy," "dumb," or even "feeble-minded." Profound personality difficulties are the inevitable result. The condition is much more frequent in boys than in girls and is very often associated with a history of enforced change of handedness. Special methods have been devised which make it possible to help the patients within a relatively short time to acquire adequate reading ability. The diagnosis is not difficult if one knows of the condition and of the typical type of errors in reading (reversals of d for b, was for saw, on for no, etc., omissions, substitutions, skipping words or lines). Spelling and writing difficulties are often connected with the dyslexia.

CASE 95. *Personality difficulties associated with specific reading disability in a nine-year-old boy.*

Donald was brought to the clinic with the following complaint: "He rasps his throat and does not seem to be able to concentrate. The teachers have been complaining that he does not get along. His teachers think *something* is holding him back. For the last three years, he had been nervous and rasping his throat. Around that time, before he started to rasp, he was hit by a machine and cut up but not knocked unconscious. We do not know whether it had anything to do with it or not. We have had him to various places for a change. In school his mind seems to be wandering when the teacher talks. It's nerves or it's *something*. On some subjects he wants to talk all the time, especially guns and airplanes."

Upon examination, Donald was found to be healthy except for a very mild degree of conduction-type loss of hearing in his left ear, following a mastoid operation which he had undergone in July, 1932. Psychometric rating showed him to have an I Q of 96. He was slow and uncertain in his answers and seemed to lack confidence in his own ability

to grasp things At one time he remarked: "I seem sort of dumb I get mixed up in a lot of things" He did not even have first-grade reading ability and was utterly helpless and hopeless when confronted with the second-grade reading test In spite of this and of the fact that the nature of his handicap had not been known to his teachers, he had been pushed up to the third grade.

Donald was the only child of intelligent and ambitious parents Though spoiled to a considerable extent, he offered no personality difficulties of any kind until he entered school Even then he did nicely for a few months, but soon the teachers noticed what they called lack of concentration Since he seemed healthy and not unintelligent, they as well as the parents began to look for *something* that could account for Donald's poor progress A slight automobile accident which resulted in a few insignificant bruises conveniently supplied the parents with a possible cause. They had always looked forward to hearing of his good achievements at school. They had made great plans for his education. They had themselves been well educated and had excelled in their studies When Donald continued to do poorly in some of his class work, they were frankly disappointed. They could not understand why their bright boy, whom they had taught to count and recite so well and who was so skilful with the use of his hands, could not accomplish the task of reading simple words Donald himself started out with a good deal of effort. He could not understand himself Trying again and again did not make things better He became discouraged, accepted his parents' accusations of laziness as being deserved, came to think of himself as "dumb," and finally gave up He really did not concentrate any longer because he did not think it worthwhile to concentrate As a result, his progress in subjects other than reading also began to suffer. An additional difficulty was created by his "courtesy promotions," since more and more

depended on the ability to read. His relatives began to question his intelligence. This added to the general disappointment. Donald was unhappy, tense, reverted to infantile habits, distressed the family by biting his fingernails, blinking his eyes, habitually clearing his throat, and wetting his bed occasionally. He was irritable, sensitive, and not less disappointed with himself than the others.

When his reading disability was discovered at the clinic, both Donald and his parents were made to know that he was a healthy and normally intelligent boy and that the *something* that they had been looking for consisted in his inability to read. Special tutoring by an expert teacher was provided. Donald's self-confidence and his family's belief in him was restored. His school teachers were given an understanding of the situation. Since he was originally righthanded and righteyed, there was no handedness or eyedness problem that called for adjustment. His vision was good. His manual skill was held up to him and his parents as a decided asset. Within a few months, his reading ability was brought up to conform to the requirements of his chronological age. His irritability, sensitiveness, habit of clearing the throat, bedwetting, and other difficulties disappeared quickly. Donald is now a normal, well adjusted boy who does well in all his studies and whose regular promotions are well deserved.

The Minor Psychoses

This group comprises a large variety of personality disorders. Most of them (neurasthenia, psychasthenia, hysteria) have been dealt with in preceding chapters. We shall discuss here briefly only one type of reaction belonging to this group, hypochondriasis, because of its significance for the development of invalid tendencies in later life.

Hypochondriasis is a chronic complaint habit. It may arise from a variety of sources. Imitation of observed adult

patterns, the desire to retain privileges derived during a period of actual illness, unhappiness at home or at school, ill-treatment, overwork with no recreational outlets, solitary life, parental oversolicitude, feeling of insecurity, medical mismanagement, and fear of punishment may all contribute to the development of somatic complaint on a psychogenic basis. Inadequate handling may so fixate and make a permanent habit of the complaint attitude, that the feeling of sickness may seriously interfere with the child's adaptations to the demands of everyday life. He may then slide into *chronic invalidism* which will make him an unfit person for the necessary occupational and social adjustments. In every case, a thorough physical examination is indispensable. A study of the child's personality and environmental setting must follow. The treatment should begin with a frank discussion, devoid of professional terminology, explaining to the child and his parents the nature of the complaint. "Rest cures," placebos, or dodging the problem by merely calling it "nervousness" are strongly contraindicated. As far as possible, the specific causes of unhappiness, disappointment, or boredom should be remedied. Parental oversolicitude should be corrected and replaced by adequate methods of training. If an adult has furnished the complaint pattern, he himself should be examined and treated. The child should be made to learn through judicious home management and medical advice that the hypochondriacal pains are an unhealthy and unprofitable expression of faulty adaptation. They should be substituted constructively by social and recreational outlets and utilization of the child's assets.

CASE 96 *Hypochondriasis in a ten-year-old girl, following bronchopneumonia at two years.*

Grace was the younger of two children of stable, well adjusted parents. After serious illness in childhood (bronchopneumonia at two years), she was made the center

of family solicitude and indulged so much that she became fully convinced that she was a sick child. The manifestations of her illness, reiterated hundreds of times by her elders, and observation of the symptoms of her father's gastric ulcer gave her ample material for the formation of ever new complaints. These were met by her parents and older brother with great anxiety, indiscriminate use of tonics and sedatives, tonsillectomy, periods of rest in bed, and subordination of the entire household to the whims of a supposedly sick girl. Grace presented a difficult feeding problem, liked certain foods only, disliked vegetables, and her mother, feeling that she must force nourishment into this "sickly and delicate" child, for years "nagged, coaxed, cajoled, punished, made promises, and prepared special dishes," with most unpleasant results. Grace had it in her power to keep the parents worried and practiced a "cough" which reminded them of her bronchopneumonia and made them her slaves. For fear that close observation during the day was not enough, she was made to sleep with her grandmother, who reported that she was a restless sleeper and grated her teeth at night.

Grace, when examined at the clinic in November, 1930, was found to be in good health and eight pounds underweight. At ten and a half years of age, she had a mental age of twelve and a half years (I Q 117). Grace, pointing to the upper part of her abdomen, complained that she had a pain in her stomach which occurred mostly in school. "The harder the work is, the more pain I have. I have no appetite for candy or ice cream, only for chocolate, the good kind. Sometimes my brain goes flooie. My hands begin to shake when I write my arithmetic lesson." A doctor had told the parents that Grace might have chronic appendicitis, this, of course, did not tend to reduce their consternation.

It took several months to convince the parents that Grace was a healthy child. They came back again and again with

requests for x-ray examinations. Finally, with the aid of Grace's school teacher and the social worker of the clinic, they realized the real facts of the situation. Meanwhile the child herself was offered incentives which gave her a better sort of satisfaction than that derived from her hypochondriacal complaints. She was given some little responsibilities in her classroom. She was made to join a Camp Fire Girl troop. She began to take part in children's plays arranged in her church. She complained less and less until at the age of eleven years she was entirely free from cough, stomachache, headache, shaking, or any other ailment, ate any kind of food well, and gained weight.

Grace was fifteen years old in March, 1935. She is now a healthy, happy, well adjusted child. She does well in school, goes to camp every summer and is there an active and normal member of the group, plays, eats and sleeps well, and has no complaints whatever. She has a healthy attitude concerning her bodily functions. Her brother studies architecture. Grace has considerable drawing talent, her teacher feels that she holds out great promise in this direction. For this reason, upon the recommendation of the clinic, she takes a special course in drawing at the Art Institute. Worry about her early bronchopneumonia has been definitely discarded by her family.

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GLOSSARY

Affect—used synonymously with emotion or mood.

Ambivalency—every idea, impulse, action, etc., is presumed to have positive and negative values. Ambivalent conduct results from the conflict between these values which, of course, greatly interferes with and, in fact, may negate the performance of an action. Bleuler defines ambivalence as a “specific schizophrenic characteristic, to accompany identical ideas or concepts at the same time with positive as well as negative feelings, (*affective ambivalence*), to will and not to will at the same time the identical actions, (*ambivalence of the will*), and to think the same thoughts at once negatively and positively (*intellectual ambivalence*).

Amnesia—a loss of memory of any kind or extent

Autistic Thinking—dream or phantasy thinking as contrasted to realistic thinking. It probably sets free subjective wishes which are unobtainable in practical life. An example would be the conducting of an imaginary love affair in the mind of the patient.

Catalepsy—a condition probably due to hyper-suggestibility in which the limbs of a patient will remain in any position in which they are placed until they drop from muscular exhaustion.

Cerea Flexibilitas—a symptom often present in catalepsy in which the limbs may be moulded, almost, as if they were made of wax.

Compensation—an exaggeration of conscious trends serving as a defense against opposed unconscious wishes which are threatening to break into consciousness.

Complex—a system of ideas held together by strong emotional tone which has largely fallen into the unconscious, usually because it is not acceptable to the conscious mind.

Compulsive Act—an act, the performance of which seems to the patient to depend on a will which is not his own.

Conflict—interplay or struggle between unconscious and often frustrated desires and conscious trends. The conscious trends may be broadly viewed as the demands of civilization and society.

Delusion—a false belief which cannot be corrected by argument, persuasion or experience. Always more than a mere mistaken opinion, since it concerns a belief which is usually obviously and grossly erroneous. For instance, the delusion that the patient is Napoleon, or, again, is without a stomach or bowels, or is being conspired against by a powerful organization. Furthermore, the reasons given by the patient for the verity of the belief are not convincing or logical, except occasionally in true paranoia.

Dementia—a permanent loss of one or more of the mental faculties, as the deterioration of emotional life in unfavorable dementia precox or the almost complete "loss" of mind observed in the last stages of paresis, senile dementia, epileptic dementia, etc

Dissociation—literally, without or lacking association or connection. For instance, to the observer the speech of the katatonic excitement of *precox* seems without ideational connection in contrast to the manic production, in which a connection or association of ideas may usually be traced. Used also in psychiatry to indicate a failure of harmonious working, for instance, the incongruity or lack of agreement between the affect and thought content in dementia precox. Also expresses the mental operation which brings about a double personality, in which unpleasant material along with associated happenings is split off and forms a kind of separate consciousness.

Distractibility—unduly or abnormally responsive to distracting influences which may too readily interfere with and change the train of thought and action, as evidenced in the speech and behavior.

Double Personality—the formation of a second and separate personality. The individual is in some sense as if he were two persons, the two personalities functioning more or less independently and not communicating with each other. See dissociation.

Echolalia—involuntary repetition of what is heard.

Echopraxia—involuntary imitation of what is done in the presence of the patient.

Euphoria—a feeling of well-being. Sometimes interpreted as a feeling of happiness.

Flight of Ideas—rapid changes in the direction of thought processes, as in mania, when the patient may never reach the completion of the goal idea because of the switching of the train of thought in response to external or internal stimuli.

Fugue—a state during which the patient for a certain period of time seemingly acts in a conscious way, perhaps travelling, buying food, and in general comporting himself in a natural manner; yet, afterward he has no conscious remembrance for this period of time and his behavior during it.

Hallucination—a sensation or perception without an object. In an hallucination, for instance, the voices which are heard and the visions which are seen are purely imaginary, that is, they do not have a starting point in sounds which are actually heard or sights which are actually seen.

Ideas of Reference—the interpretation by the patient of incidents and casual happenings in the environment as having a direct reference to him. For instance, a passer-by coughs and thereby conveys derision and insult.

Illusion—a misinterpreted sensation or perception. There is actual stimulation of one or more of the senses but the stimulus is grossly misinterpreted.

Impulsive Act—an act, the performance of which seems to the patient to depend on sudden, overwhelming impulses arising from within

Introjection—subjectifying the objective or imputing to ourselves the motives of others Also called identification

Katatonia—literally—"I stretch tightly" Originally regarded as a muscular phenomenon, its meaning has been expanded to include many symptoms, such as certain types of violence, mutism, scolding spells, refusal of food, stereotypy, etc It occurs in many psychoses but is seen in its most typical manifestation in dementia *precox*, either as katatonic stupor in which there may be mutism, absence of response to external stimuli, negativism, catalepsy, cerea, etc, or katatonic excitement which to the observer appears as wholly purposeless activity

Libido—appetite Craving for satisfaction

Mannerism—a stereotyped movement which seems to consist of a peculiar modification of an ordinary movement, as, walking in very straight lines or eating in a definite rhythm. There may be mannerisms of speech, as lisping, strange inflections, odd phrasing, repetitions, etc

Mutism—literally, without speech Occurs in various psychoses In depression it may be due to extreme retardation or to stupor It may be negativistic when there is refusal to answer questions, although spontaneous speech exists

Narcissism—love of self to the exclusion or incompleteness of heterosexual love

Negativism—impulsive resistance to external stimuli such as requests or commands For instance, in negativistic conduct the patient who is asked to stick out the tongue may press the teeth tightly together, or squeeze the eyelids together when an attempt is made to examine the pupils It should not be confused with voluntary resistance or stubbornness

Neologism—senseless expression The expression of meaningless (to the listener) words, phrases or sentences

Nosology—the science of the classification of disease

Obsession—the domination of the patient by some thought or action, as in *compulsion neuroses*

Orientation—clear comprehension of environment as to time, place and person Absence of orientation is disorientation and may involve time, place or person

Paranoid—resembling paranoia The student must remember, that as far as delusions are concerned, the delusion of paranoid *precox*, while they suggest the delusions of paranoia, nevertheless, lack the consistency, logic and closely knit systematization of the latter

Projection—objectifying the subjective or imputing to others motives which are really one's own motives

Rationalization—an unconscious process of self-justification An unwillingness to recognize real reasons

Retardation—slowness and difficulty in thought, speech and motion

Sublimation—the utilization of the energy of unobtainable wishes in order to erect a higher and usually more social goal

Symbolization—letting one object represent something else. A Freudian mechanism which is said to operate principally in dreams, and which has for its object the representation of dream material in a form acceptable to the dreamer

Transference—unconscious misidentification of external objects, usually persons, so that the patient may feel and behave toward them in a way which satisfies the experiences and impressions which refer to another (love or fixation) object

Unconscious—the repository, not only of the previous experiences in the life of an individual but also of the historical past of the race (psychoanalytic sense)

Verbigeration—repetition for long periods of time and in a monotonous fashion of senseless expressions, sometimes only a single syllable or word

There may be manifestations of verbigeration in the writing of patients

Volubility—excessive fluency of speech

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